ON-SITE INSPECTIONS UNDER THE INF TREATY



Joseph P. Harahan

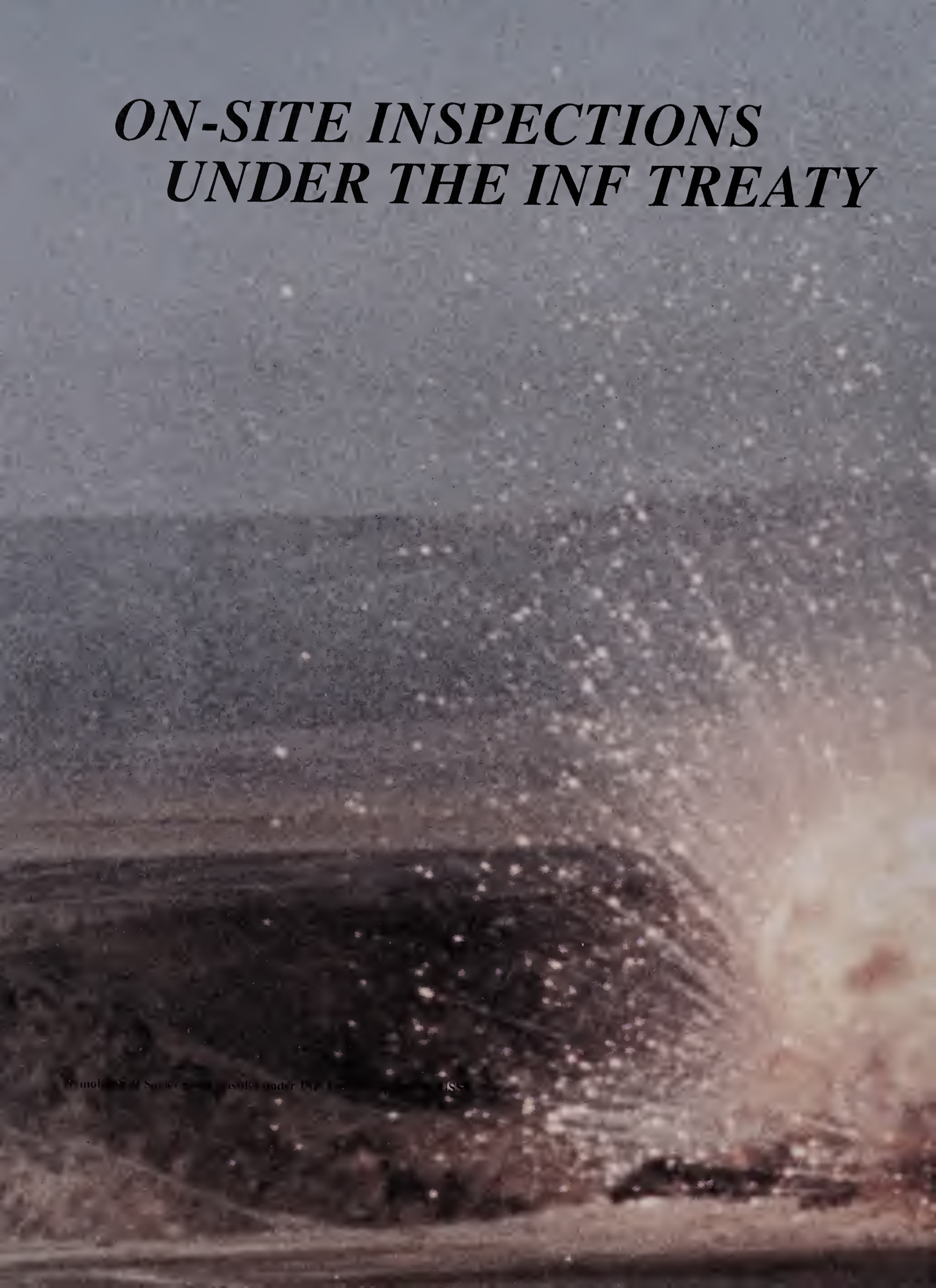
COVER: In May 1991, the Soviet Union eliminated the last of 654 SS-20 missiles. Flanked by their inspection teams, American team chief, Captain John C. Williams, USN, and Colonel Miklaylovich Komogortsev, USSR, cosign the INF Treaty Inspection Report at Kasputin Yar, USSR.

TREATY HISTORY SERIES

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ON-SITE INSPECTION AGENCY

ON-SITE INSPECTIONS UNDER THE INF TREATY



A History of the On-Site Inspection Agency and INF Treaty Implementation, 1988-1991

Joseph P. Harahan

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FOREWORD

When a new agency undertakes a precedent-setting mission, like implementing the Intermediate-Range Nuclear Forces Treaty, the excitement and energy of the historic moment sustains the effort in the initial years. Then, after the passage of time, the arrival of new people, and the conduct of new treaty missions, questions arise about origins, assumptions, and accomplishments. To answer those questions and to tell the story of the men and women who conducted the INF Treaty's on-site inspection mission, the On-Site Inspection Agency is publishing this history.

This book, the first in a series by the Historian of the On-Site Inspection Agency, documents the historical events. In the American constitutional system, those federal agencies which are involved in significant, contemporary missions have a special obligation to inform the public of their activities. The government is accountable to the people; this history helps meet that obligation by telling the story of "On-Site Inspections Under the INF Treaty.

ROBERT W. PARKER
MAJOR GENERAL, U.S. AIR FORCE
DIRECTOR

PREFACE

When a historian sets out to research and write the history of contemporary events, the challenge is not only to get the story "right" but to see how important, consequential changes fit into a larger and longer patterns of human experience. For this history, the contemporary events were the implementation of the significant, new U.S.-USSR INF Treaty and the institution of a Department of Defense organization, the On-Site Inspection Agency. The really remarkable changes came with the implementation of the treaty articles and protocols, which injected the concepts of on-site inspections, continuous portal monitoring, and scheduled missile reductions into the U.S.-USSR arms control regime. The context for carrying out these changes was the Cold War and the long, ideological, economic, and military struggle for dominance. Soldiers of the Cold War on both sides, as this history narrates, proved to be effective, professional agents of change in the transition from one historical era to another.

In 1989, Brigadier General Roland Lajoie, OSIA's Director, initiated this history. He stated then that the United States and the Soviet Union had broken new ground with the INF Treaty; he wanted its implementation recorded, published, and disseminated to larger audiences. Major General Robert W. Parker, OSIA's current Director, read the final manuscript and offered suggestions. He too saw the benefits from its publication and distribution. Dr. Joerg H. Menzel, OSIA's Principal Deputy Director, encouraged, cajoled, redefined, and doggedly mentored the manuscript into book form. To him, I am indebted.

Anyone who has worked on a multi-year government project knows that delays, adversities, and mysterious pauses are part and parcel of the experience. No one overcomes these difficulties alone. Many people, inside and outside of the agency offered advice, timely suggestions, and encouragement. In my initial research in 1989-1990, OSIA's inspectors and escorts shared their time and experiences, especially Paul Nelson, Tom Brock, Terry Corneil, Bob McConnell, Ken Keating, Mark Dues, Paul Trahan, Jerry West, Mike Hritsik, Steve Boyd, Bob Yablonski, Joseph Wagovich, Richard Gibby, Susan Alborn, David Lafleur, and Larry Nelson. In November 1991, three senior military historians, Dr. Alfred Goldberg, Dr. Carl W. Reddel, and Dr. Donald R. Baucom, read, critiqued, and recommended its publication. In 1992, Judy Cleary edited the manuscript, Bill Way and Eric Emerton collected and reproduced photographs, and Paul Andino designed the page layout, and developed the cover art. Marshall Billingslea developed new tables, charts, and maps. Jack Kuhn, Paul Andino, and Jack Cobb, helped ready the manuscript for final review within the Department of Defense and interagency. While longer and more recondite than anticipated, that review sharpened the text. Approval came in February 1993. Throughout the lengthy process, my thoughts turned occasionally to a saying by the American popular singer, Dolly Parton, "If you want to see the rainbow, you gotta put up with a little rain."

Joseph P. Harahan
March 8, 1993

THE AUTHOR

Joseph P. Harahan is a public historian who joined the On-Site Inspection Agency in early 1989. Previously, he had been a member of the Office of Air Force History and the faculties of the University of Richmond and Michigan State University. He received a BA from the University of Virginia, MA from the University of Richmond, and a Ph.D. in History from Michigan State University. He is the author or coeditor of a multi-volume Air Force history series, Warrior Studies (12 volumes), and has published articles in **International Security**, **Public Historian**, and **Government Review**. While completing this history on implementing the INF Treaty, he has lectured widely at colleges, universities, and military academies in the United States and abroad.

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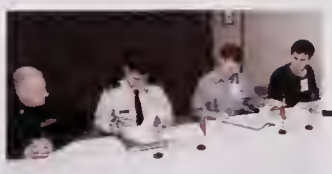
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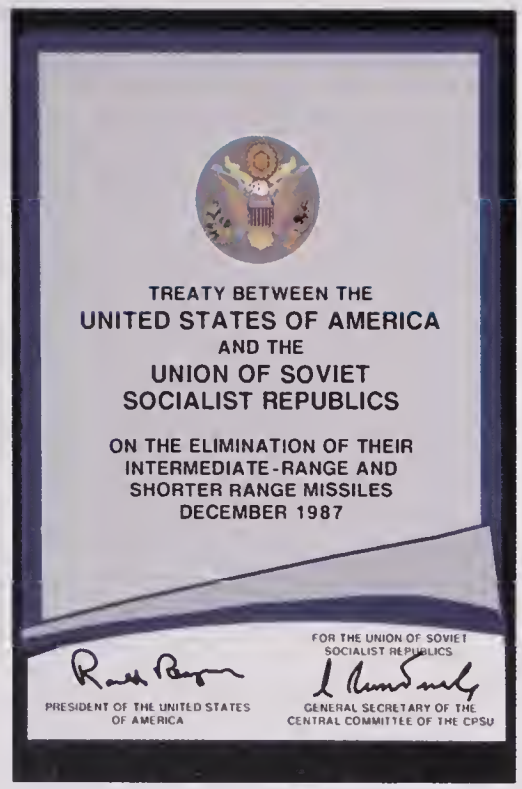
CHAPTER 1

A NEW TREATY, A NEW AGENCY



Soviet General Secretary Mikhail Gorbachev and President Ronald Reagan signed the INF Treaty on December 8, 1987.

On January 15, 1988, President Ronald Reagan directed the Secretary of Defense to establish the On-Site Inspection Agency (OSIA). Its mission was to carry out the on-site inspection and escort responsibilities of the United States under the provisions of the Intermediate-Range Nuclear Forces (INF) Treaty.[1] Signed on December 8, 1987, by President Reagan and Soviet General Secretary Mikhail Gorbachev, the INF Treaty enjoined the two countries to eliminate all ground-launched missiles (approximately 2,700 missiles) with ranges between 500 and 5,500 kilometers. National teams of inspectors would monitor and report on the elimination of these missile systems and other significant provisions of the treaty.The INF Treaty was ratified by the U.S. Senate and the USSR's Supreme Soviet in the spring of 1988, and the instruments of



ratification were exchanged at the Reagan-Gorbachev Moscow Summit of June 1, 1988. Exactly 30 days later the first phase of the treaty began. On-site inspections were a major component of this and all subsequent phases of the treaty. They had immediate significance, both as a barometer for measuring adherence to the treaty and as a precedent for entering into future arms control treaties and agreements.

In negotiating arms control treaties with the Soviet Union, the United States had proposed on-site inspections as a part of treaty verification for more than 30 years.[2] However, until the late 1980s few treaties or agreements had included the provision. One, the Stockholm Document of September 1986, was a multilateral arms control agreement signed by the United States, the Soviet Union, and 33 European nations. It went into effect on January 1, 1987, and permitted on-site challenge inspections by small, four-person teams of military officers of large-scale, scheduled military exercises. If a military force of more than 17,000 took part in an exercise, the participating states had to provide notification 42 days in advance and issue an invitation to all of the signatories to send an on-site inspection team to observe the exercise. There was no right of refusal. However, the agreement limited nations that were not members of the same alliance (i.e., NATO or the Warsaw Pact) to a single challenge inspection each per year. This provision limited the number of inspections. In 1987, the first full year of the Stockholm Document, there were only five on-site challenge inspections. The United States conducted a single on-site inspection under the agreement in 1987.[3]

By contrast, the INF Treaty required, or permitted through the exercise of treaty rights, the United States and the Soviet Union to conduct several hundred on-site inspections at operational missile sites, repair facilities,



U.S. inspectors during an SS-12 inspection at Saryozek, USSR, April 1989.



Soviet inspectors at American GLCM wing, RAF Greenham Common, Great Britain, January 1989.

storage depots, training sites, and former missile production or assembly facilities. Effective July 1, 1988, the United States had the right to send, within 60 days, 10-person inspection teams to 130 Soviet INF missile sites and missile-related facilities in the Soviet Union, Czechoslovakia, and East Germany. The Soviet Union had the right in the same period to send its on-site inspection teams to 31 U.S. INF sites and facilities in West Germany, Belgium, the Netherlands, Italy, Great Britain, and the United States. According to the terms of the treaty, all inspection teams had to be met and accompanied throughout the inspection by national escort teams. The treaty also stipulated that both states could place resident on-site inspection teams of up to 30 inspectors at one former INF missile assembly plant or a former INF missile production facility to monitor continuously the entrance portals and perimeter. For a minimum of 3 years and a maximum of 13 years, the United States and the USSR could conduct these on-site portal monitoring inspections. During the first full year of the INF Treaty, in direct contrast to the Stockholm Document, the United States and the Soviet Union had the right of conducting more than 340 INF on-site inspections.[4]

When the full scope of the new treaty's rights and obligations were understood, it became clear that the U.S. government had to move quickly to define department and agency responsibilities, allocate resources, and initiate preparations for carrying out the mission. Initial estimates were that the treaty's on-site inspection and escort missions would involve recruiting and training up to 400 people; establishing a headquarters and field offices in the United States, Western Europe, and Japan; setting up and managing a continuous portal monitoring inspection operation at a Soviet missile assembly plant and an escort operation at an American missile plant; and managing an annual budget of over $120 million.[5] An added impetus to act quickly was the fact that negotiations for a larger, more complex arms control treaty—the Strategic Arms Reduction Treaty (START)—had reached a decisive stage in Geneva. In the spring of 1988, senior officials and arms control experts testified to the U.S. Congress that the INF Treaty



Brigadier General Roland Lajoie, first Director, OSIA.

was a precursor for the more extensive and complicated U.S.-USSR START Treaty.[6]

Consequently, the purpose of President Reagan's January 15, 1988, directive was to define the INF Treaty mission and to fix responsibility for the U.S. government's on-site inspection and escort mission in a new Department of Defense organization: the On-Site Inspection Agency.

First Charter

Eleven days after the President's directive, on January 26, 1988, William H. Taft IV, the Deputy Secretary of Defense, established OSIA as a separate operating agency in the Department of Defense.[7] The Director, a senior military officer or DOD civilian, would be appointed by the Secretary of Defense with the concurrence of the Secretary of State and the approval of the President. The Director would report to the Under Secretary of Defense for Acquisition. An executive committee consisting of the Chairman of the Joint Chiefs of Staff and the Under Secretaries of Defense for Acquisition, and for Policy, would provide oversight, direction, and transmit policy guidance received from a formal interagency process established by the President. The new agency would have three deputy directors—a Principal Deputy Director, a Deputy Director for International Negotiations, and a Deputy Director for Counterintelligence. The new organization's first charter stipulated that OSIA would have two principal responsibilities:

- To manage and coordinate the U.S. INF Treaty on-site inspection activities in the USSR, Czechoslovakia, and East Germany, and

- To manage and coordinate all United States activities associated with the Soviet Union's on-site inspections of United States' INF facilities in the United States, Belgium, Federal Republic of Germany, Italy, Netherlands, and the United Kingdom.[8]

On February 1, 1988, Brigadier General Roland Lajoie, U.S. Army, became the first Director, On-Site Inspection Agency. A Soviet specialist, General Lajoie had commanded a battalion at Fort Bragg, North Carolina; served as chief of the U.S. Military Liaison Mission, Berlin; and had been U.S. Army Attaché to the Soviet Union and U.S. Defense Attaché to France. He was fluent in Russian and French.[9] A week later the initial cadre of approximately 40 military officers and noncommissioned officers arrived, drawn from all the United States military services, as well as a few civilians from other government agencies. They started work in temporary offices in an area of southeast Washington, D.C., known as Buzzard Point.

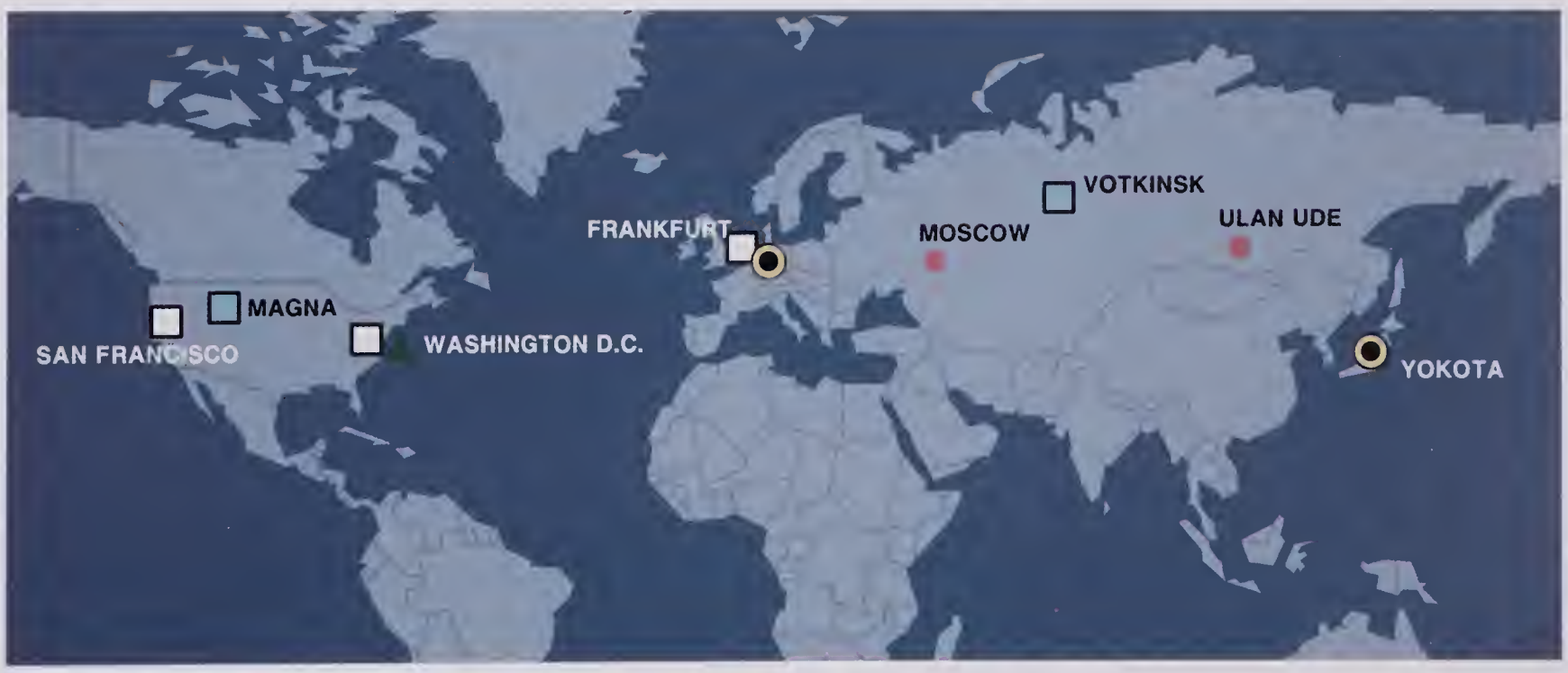
Because of the diplomatic and military nature of the INF Treaty's on-site inspection and escort missions, extensive coordination would be required with other nations and with many federal departments and agencies. OSIA's first principal deputy director, George L. Rueckert, was appointed by the Director of the U.S. Arms Control and Disarmament Agency. A career Foreign Service officer, an INF Treaty negotiator, and a senior arms control policy advisor, Rueckert had extensive experience in

the Soviet Union and Eastern Europe. The Secretary of State nominated the agency's first deputy director for international negotiations, Raymond F. Smith, a senior Foreign Service officer with experience in the U.S. embassy in Moscow. An authority on the Soviet Union, Smith later authored *Negotiating With the Soviets* (1989), an analysis of diplomatic and negotiating strategies of Soviet officials. The Director of the Federal Bureau of Investigation selected the agency's first deputy director for counterintelligence, Edward J. Curran.[10]

A similar diversity of experience characterized OSIA's initial cadre of inspectors and escorts. Among the military officers, some had recent experience in commanding or serving in Pershing II battalions or Ground Launch Cruise Missile wings. A few officers had been in Geneva, assisting with the final phases of INF Treaty negotiations. Others had served in Washington on the initial task force defining the roles and missions of the new agency. Still others had been military attachés to the Soviet Union or had served as foreign area officers in the U.S. Army. Among the noncommissioned officers, many had special training and experience as Russian linguists. Many of the team chiefs were career officers with advanced degrees, especially in Soviet area studies and Russian language and culture.

Initial Organization

The INF Treaty mission largely determined the new agency's initial organizational structure. Responsibility for planning, operational training, and conducting on-site inspection and escort missions was lodged in OSIA's operations directorate. The directorate had two components: an inspection division, which prepared for and conducted U.S. on-site inspections at the 130 Soviet INF missile sites in the Soviet Union, East Germany, and Czechoslovakia; and an escort division, which was responsible for coordinating the escorting of Soviet on-site inspection teams at the 31 U.S. INF



Within 7 months of its creation in January 1988, the new agency set up field offices and continuous inspection sites worldwide.

missile sites located in Western Europe and the United States. The new agency's portal monitoring directorate had responsibility for conducting and managing the continuous on-site portal inspections. The treaty stipulated that each nation had the right to place a team of up to 30 on-site inspectors at one former INF missile assembly or rocket motor production facility to monitor continuously—24 hours a day, 365 days a year—the entrance portal and to patrol the perimeter. U.S. inspectors would go to the former SS-20 missile assembly plant in Votkinsk, USSR, and Soviet inspectors would go to a former Pershing II rocket motor plant in Magna, Utah. OSIA's support directorate was responsible for personnel, budget, acquisition, travel, and coordination for military airlift.[11]

The INF Treaty mission also affected the geographical placement and function of the agency's field offices. One section of the treaty's protocol on inspections stipulated that INF on-site inspectors had to enter the nation to be inspected at "the point of entry that is closest to the inspection site." INF escort teams would meet the inspectors at these designated entry points and accompany them throughout the inspection. Eleven points of entry were designated in the treaty: Washington D.C. and San Francisco in the United States, Frankfurt in the Federal Republic of Germany, Brussels in Belgium, Schiphol Airport in the Netherlands, Rome in Italy, RAF Greenham Common Air Base in Great Britain, Moscow and Irkutsk (later Ulan Ude) in the USSR, Leipzig-Schkeuditz Airport in the German Democratic Republic, and Ruzyne International Airport in Czechoslovakia.[12]

The United States was responsible for having INF escort teams ready to meet Soviet INF inspection teams at seven entry points, two in the United States and five in Western Europe. At two of these points, Washington and Travis AFB, the On-Site Inspection Agency established field offices. For European operations, OSIA established a field office in Frankfurt, which was the point of entry for Soviet INF teams inspecting missile sites and facilities in West Germany. This office could also dispatch U.S. escort teams to meet Soviet inspection teams arriving at designated points of entry in Belgium, the Netherlands, Italy, and Great Britain.



Frankfurt, West Germany.

The European field office also played a major role in the United States' inspection operations. Most of the American on-site inspection teams met in Washington, flew as a team to Europe, and then traveled into the Soviet Union. They were required by the treaty to enter the Soviet Union at Moscow, the designated point of entry. In Europe, the inspection teams used the field office as a "gateway." In Frankfurt, the inspectors would be placed in 10-person teams, issued treaty-permitted inspection equipment, and given final instructions before departing for Moscow.

A second OSIA gateway field office was established at Yokota Air Base near Tokyo, for U.S. teams inspecting INF missile sites in the eastern USSR. This OSIA field office functioned like the one in Frankfurt—it was an assembly point where U.S. inspection teams would complete their final preparations before departing for Ulan-Ude, the Soviet Union's eastern point of entry.

Initially, all U.S. inspection teams flew to and from the Soviet Union, East Germany, and Czechoslovakia aboard USAF aircraft. The INF Treaty



U.S. Embassy, Moscow, site of the new Arms Control Implementation Unit (ACIU), the small embassy office which assisted American INF Treaty inspection teams arriving and departing from Moscow.

created a special category of individuals, "aircrew members," who had to be identified on an official list before the flight to the point of entry. No more than 200 individuals could be identified as aircrew members at any one time.[13]

INF Treaty requirements were also responsible for placing an Arms Control Implementation Unit in the U.S. embassy in Moscow. The treaty stipulated that a "diplomatic aircrew escort" accredited to the Soviet government (or to the government of the basing nation in which the INF site was located) shall meet the INF inspection teams and aircrew at the point of entry "as soon as the airplane of the inspecting Party lands."[14] This meant that U.S. embassy officials had a treaty obligation to meet each arriving American inspection team and aircrew. The United States anticipated it would conduct more than 150 on-site inspections in the first treaty year. Consequently, in the U.S. embassy in Moscow a new organization, the Arms Control Implementation Unit (ACIU), was set up to assist arriving and departing inspection teams and aircrews. The State Department and OSIA provided people, funding, and logistics for this new embassy unit. For American inspection teams arriving in Ulan-Ude, a representative from the ACIU subunit met each team and aircrew.

When its headquarters, field offices, and embassy units were in place, OSIA's organizational structure stretched across 19 time zones. The United States and the Soviet Union had produced, tested, deployed, and stored ground-based INF intermediate- and shorter-range missiles on sites on three



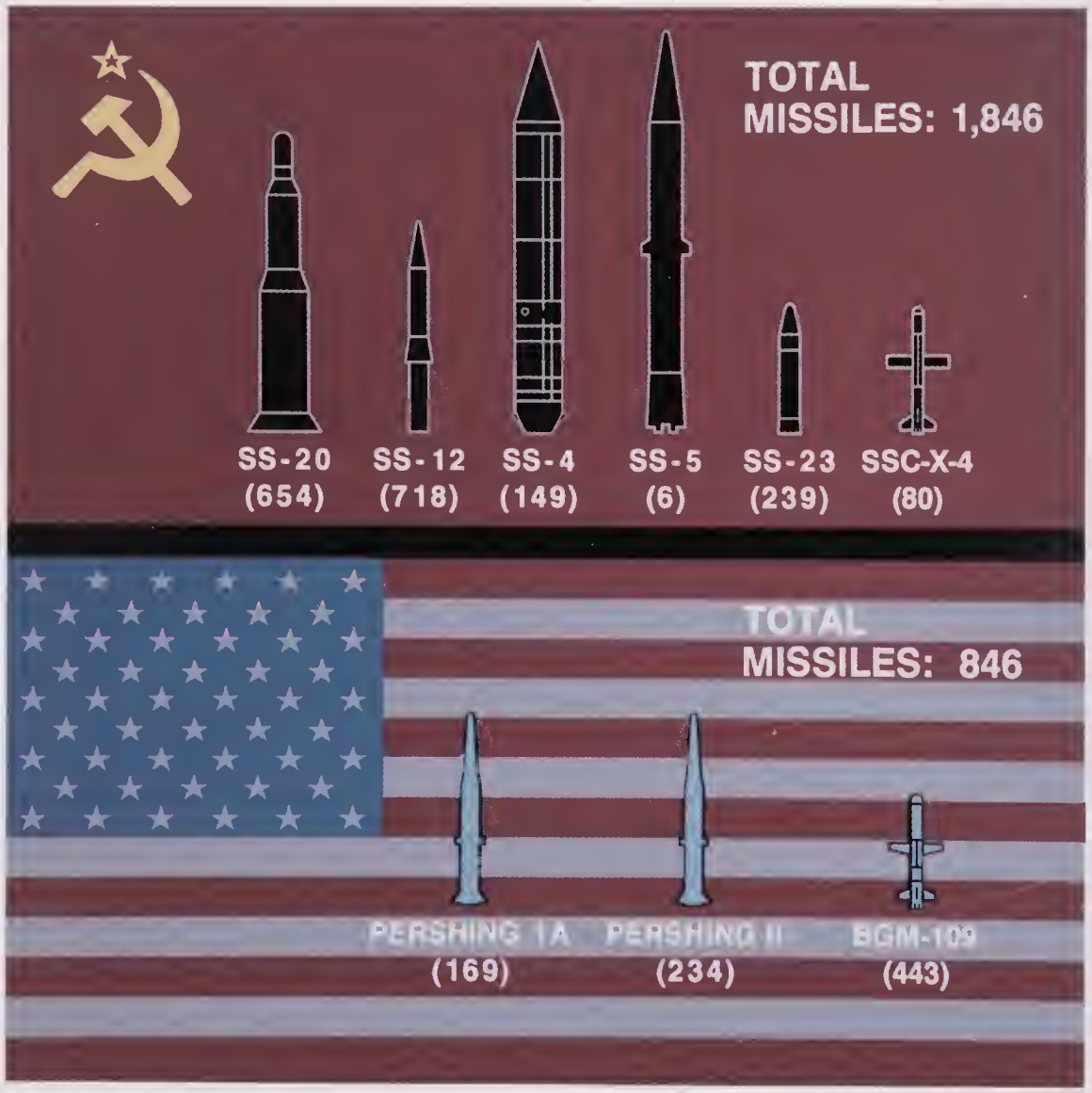
Pershing II missile.

continents: North America, Europe, and Asia. By signing the INF Treaty, the U.S. government, and specifically the people in its newly created On-Site Inspection Agency, had to be prepared to travel to every site to carry out inspections and escort missions.

INF Treaty Mission

Known officially as the "Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-Range and Shorter-Range Missiles," the 17-article INF Treaty was supplemented by two protocols and a memorandum of understanding. The "Protocol on Procedures Governing the Elimination of the Missile Systems Subject to the Treaty" defined the elimination procedures in detail. The "Protocol Regarding Inspections Relating to the Treaty" spelled out the purpose, rules, and procedures for conducting on-site inspections. The accompanying "Memorandum of Understanding Regarding the Establishment of the Data Base for the Treaty" provided a detailed accounting by each party of the number and location of all missiles, launchers, associated equipment, and facilities covered in the treaty.

The treaty's first article defined the essence of the United States' and the USSR's obligations: "...each Party shall eliminate its intermediate-range and shorter-range missiles, not have such systems thereafter, and carry out the other obligations set forth in this Treaty." All ground-based intermediate-range missiles (1,000-5,500 kilometer range), all shorter-range missiles



(500-1,000 kilometer range), and their associated launchers, equipment, support facilities, and operating bases worldwide were to be eliminated or closed out from any further INF missile system activity. Defining the INF missile systems by range rather than type of armaments (such as nuclear or conventional) was important. Because the INF Treaty prohibited the parties from producing or flight-testing any INF-designated missiles, and the treaty was for an unlimited duration, no ground-based missiles in these ranges could be produced, possessed, or tested by either nation in the future.[15]

Eight different types of intermediate- and shorter-range missile systems would be eliminated. For the United States, these missiles were the Pershing II, the BGM-109G ground-launched cruise missile, and the Pershing 1A missile. For the Soviet Union, the INF missile systems slated for destruction were SS-20, SS-4, SS-5, SS-12, and SS-23. Two missiles that had been tested but not deployed were incorporated into the treaty because of their ranges. These were the U.S. Pershing 1B missile and the Soviet SSC-X-4 cruise missile. As of June 1, 1988, none of the Pershing 1Bs existed and only 80 SSC-X-4s had been produced for testing.[16]

All of these INF missiles would be eliminated under one of the most comprehensive verification regimes ever established to monitor compliance with a U.S.-Soviet arms control treaty. The monitoring provisions combined traditional satellite reconnaissance and other national technical means with totally new procedures for on-site inspections of missile production plants, operating bases, support facilities, and elimination sites.

Five Types of On-Site Inspections

Under the INF Treaty inspection teams performed different functions. They carried out these functions through five types of inspections: baseline, elimination, portal monitoring, closeout, and short-notice.[17]

The first type of inspection established a baseline inventory. Thirty days after the formal exchange of the instruments of ratification, each nation had the right, over the next 60 days, to send 10-person on-site inspection teams to all missile operating bases, support facilities, and elimination sites specified in the official INF Treaty Memorandum of Understanding. Once on site, the teams had 24 hours to confirm the number of all treaty items present. The results of this inspection were recorded in treaty-mandated inspection reports. These reports, when combined with the official data and photographs in the Memorandum of Understanding, constituted the baseline data for the duration of the treaty.

A second function of the inspection teams was to monitor the elimination of all 2,692 INF missiles, and their launchers and support equipment at designated elimination sites. The Soviet Union designated eight elimination sites; the United States established four sites. All INF missile system eliminations and elimination inspections were to be completed within three years.

FIVE TYPES OF INSPECTIONS:

- BASELINE
- ELIMINATION
- CLOSEOUT
- SHORT NOTICE
- PORTAL PERIMETER



A third use of on-site inspection teams was for closeout inspections. These inspections confirmed, within 60 days of notification by the inspected party, that all INF-specified equipment, support structures, and treaty-related activity had ceased at the missile operating base or support facility. In the Memorandum of Understanding, the Soviet Union declared 130 INF sites; the United States, 31. INF activities at all of these sites were to cease within three years of the treaty's entry into force.

The fourth function of inspection teams was to conduct annually, on short notice, a limited number of inspections of active missile operating bases or previously active (closed-out) missile sites, support facilities, or launcher production facilities. The purpose of these short-notice inspections was to determine if any INF missiles, support equipment, or declared items were present. During the first three years of the treaty, each party had the right to conduct up to 20 short-notice on-site inspections annually. During the next five years, each side would be allowed 15 inspections annually; during the final five years, 10 per year.

A fifth function of the on-site inspectors was initially to monitor the portals of a single, designated missile production or final assembly facility in each nation. During final treaty negotiations, the Soviet delegate declared that its nation intended to continue the final assembly of a ground launched ballistic missile that was "outwardly similar" to a stage of an INF Treaty missile. For this reason, the United States was given the right to have on-site inspectors monitor—24 hours a day, 365 days a year—the portal and perimeter of the Votkinsk Machine Building Plant in the Udmurt Autonomous Soviet Socialist Republic, USSR. This inspection right was to be in effect for at least 3 years and up to a maximum of 13 years. A maximum of 30 on-site inspectors could be used for this inspection. At Votkinsk, Soviet SS-20, SS-23 and SS-12 missiles had been assembled at the plant; currently, Soviet SS-25 missiles—similar but with a greater range—were being assembled there. These SS-25 missiles were not banned by the INF Treaty. The purpose of U.S. portal monitoring inspections at Votkinsk was to ensure that the USSR did not assemble the banned SS-20 missile under the guise of an SS-25 missile. U.S. on-site inspectors would not enter the plant; instead, they would continuously monitor the portal and patrol the perimeter. The INF Treaty granted the Soviet Union the right to place a team of up to 30 resident on-site inspectors at the portals of Hercules Plant No. 1 in Magna, Utah, where Pershing II rocket motors had been produced. The Soviet inspectors would monitor the plant's portals and perimeter. As at Votkinsk, the INF inspectors could not enter the plant.

In less than five months from its establishment, the new On-Site Inspection Agency had to recruit, train, prepare, and equip the U.S. on-site inspection and escort teams to carry out the initial inspections.

NOTES: CHAPTER 1

[1]Throughout this history the term "INF Treaty" will be used. The actual, official title of the treaty is: Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-Range and Shorter-Range Missiles.

[2]Alan B. Sherr, *The Other Side of Arms Control, Soviet Objectives in the Gorbachev Era* (Boston: Unwin Hyman, 1988), pp. 242-276. Sherr states that both the United States and USSR in the 1950s and 1960s agreed to on-site inspections as part of multilateral treaties involving arms prohibitions in Antarctica and outer space. Neither of these treaties, however, involved on-site inspections on the national territory of either the Soviet Union or the United States. Treaties and agreements with verification provisions that included on-site inspections on national territory were not negotiated and ratified until the late 1980s.

[3]Don O. Stovall, "The Stockholm Accord: On-Site Inspections in Eastern and Western Europe," in Lewis A. Dunn and Amy E. Gordon, eds., *Arms Control Verification and the New Role of On-Site Inspection* (Lexington: Lexington Books, 1990), pp. 15-38. For statistics on CDE inspections, see p. 35.

[4]100th US Congress, 2nd Session, Senate Committee on Foreign Relations, *Treaty Document 100-11: Message from the President of the United States Transmitting the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles, Together With the Memorandum of Understanding and Two Protocols, Signed in Washington on December 8, 1987* (Washington, D.C.: U.S. Government Printing Office, 1988). This document contains a letter of transmittal from President Reagan to the U.S. Senate. It also has an article-by-article analysis of the INF Treaty and the complete text of the treaty. Hereafter cited as *Treaty Document 100-11*. For INF inspection statistics, see: OSIA Office of Public Affairs, *Fact Sheet*, June 1, 1989; OSIA, "INF: The First Year," *Arms Control Today* (Washington, D.C.), August 1989, p. 31; *Washington Post*, June 3, 1989.

[5]100th US Congress, 2nd Session, Senate Committee on Foreign Relations, Executive Report 100-15, *INF Treaty* (Washington, D.C.: U.S. Government Printing Office, 1988), Vol. 1, p. 51.

[6]Ibid., pp. 66-67. Secretary of Defense Frank C. Carlucci, Ambassador Paul Nitze, and former Secretary of Defense James R. Schlesinger testified as to the precedent of the INF Treaty and its verification regime for the START Treaty. Secretary Carlucci and Ambassador Nitze told the Committee that some form of "anytime, anywhere" inspections might well be part of a START agreement. Secretary Carlucci testified, "I think we are probably going to have to have some form of challenge inspections under START." Former Secretary of Defense James Schlesinger told the Committee that "anyplace, anytime—will probably be the right regime for START."

[7]William H. Taft, IV, Department of Defense Directive: *United States On-Site Inspection Agency*, January 26, 1988, Section F. Unclassified Extract.

[8]OSIA Office of Public Affairs, "The On-Site Inspection Agency," *Fact Sheet*, June 1, 1988.

[9]OSIA Office of Public Affairs, *Biographical Fact Sheet*, May 1, 1989.

[10]OSIA Office of Public Affairs, *Biographical Fact Sheet*, November 1988.

[11]Edward J. Lacey, "On-Site Inspection: The INF Experience," in Dunn, *Verification*, pp. 3-14.

[12]*INF Treaty Protocol in Inspections*, Section I, Paragraph 7. See also: Senate Committee on Foreign Relations, *Treaty Document 100-11*; and 100th U.S. Congress, 2nd Session, Senate Special Delegation to Visit Five NATO Countries, *Report: The INF and the Future of the Alliance* (Washington, D.C.: U.S. Government Printing Office, 1988).

[13]Ibid., Section I, III.

[14]Ibid., Section V.

[15]*INF Treaty*, Article I. See also: Arms Control Association Interview with Brigadier General Roland Lajoie, "Insights of an On-Site Inspector," in *Arms Control Today* (Washington, D.C.: November 1988), Vol. 18, No. 9; U.S. Arms Control Disarmament Agency, *Understanding the INF Treaty* (Washington, D.C.: U.S. Government Printing Office, 1988), pp. 1-33; Stockholm International Peace Research Institute (SIPRI), *SIPRI Yearbook 1988: World Armaments and Disarmament* (Oxford: Oxford University Press, 1988), pp. 375-485; SIPRI, *SIPRI Yearbook 1989; World Armaments and Disarmament* (Oxford: Oxford University Press, 1989), pp. 443-458.

[16]*INF Treaty Memorandum of Understanding*, June 1, 1988.

[17]For the Reagan Administration's explanation of these five types of INF on-site inspections, see Senate Committee on Foreign Relations, *Treaty Document 100-11*, pp. 43-61. Four U.S. Congressional Committees held extensive hearings on the INF Treaty. For results of these hearings and reports, see: 100th U.S. Congress, 2nd Session, Senate Committee on Foreign Relations, *Report and Hearings: The INF Treaty* (Washington, D.C.: U.S. Government Printing Office, 1988), 6 Volumes; 100th U.S. Congress, 2nd Session, Senate Committee on Armed Services, *Report and Hearings: NATO Defense and the INF Treaty* (Washington, D.C.: U.S. Government Printing Office, 1988), 4 Volumes; 100th U.S. Congress, 2nd Session, Senate Select Committee on Intelligence, *Report and Hearings: INF Treaty Monitoring and Verification Capabilities* (Washington, D.C.: U.S. Government Printing Office, 1988), 1 Volume; 100th U.S. Congress, 2nd Session, House of Representatives Committee on Foreign Affairs, *Report: Soviet Compliance With Arms Control Agreements* (Washington, D.C.: U.S. Government Printing Office, 1988).

CHAPTER 2

CRITICAL MONTHS, INTENSE PREPARATIONS



President Reagan met with U.S. INF inspectors in the White House on June 22, 1988. Eight days later, the inspections began.

On Monday, February 8, 1988, 40 Army, Air Force, Navy, and Marine Corps officers and enlisted personnel, along with two civilians, reported to a large vacant office at U.S. Coast Guard Headquarters located at Buzzard Point in southeast Washington, D.C. These people constituted the On-Site Inspection Agency. They began working in an atmosphere more akin to a task force than a fully staffed federal agency. From the beginning they worked under considerable pressure. President Reagan had submitted the treaty to the U.S. Senate for its advice and consent

in late January, and hearings in the Senate and the House of Representatives were scheduled to begin in late February. Some experts predicted that the treaty would be ratified and enter into force as early as April 1. That meant that on-site inspections might begin as early as May 1, less than 90 days away. That left little time to organize the agency, set up field offices, establish communications centers, write operations plans, recruit inspectors and escorts, conduct training classes, schedule and perform mock inspections, purchase and field equipment, and deploy INF inspection and escort teams.

Inherited Decisions: First Task Force

In the late fall of 1987, as the final treaty provisions were being negotiated and the agenda for the Washington Summit completed, Lt. General Colin L. Powell, Assistant to the President for National Security Affairs, asked Admiral William J. Crowe, Jr., Chairman of the Joint Chiefs of Staff, to set up a small task force. Their assignment was to develop a concept of operations and recommend an organizational structure for implementing the INF Treaty. One week later, on December 1, 1987, General Powell issued specific guidelines for the task force. Verification and compliance mechanisms within the U.S. government would remain for the INF Treaty as structured for all other treaties. A new on-site inspection organization, located in either the Department of Defense or the U.S.Arms Control and Disarmament Agency, would have the mission of preparing for, conducting, and managing INF Treaty inspection and escorting activities, including the transportation of inspection teams to and from the designated points of entry in the Soviet Union and the United States. For U.S. inspections of Soviet missile sites, the Treaty stipulated that a list of up to 200 inspectors would be established. The new organization would be responsible for recruiting, training, equipping, and managing these inspectors. They would be drawn from people knowledgeable about the Soviet Union and its military, Russian linguists, and from specialists in INF missile



The Pentagon, Washington, D.C.



Gates of the Votkinsk Machine Building Plant, Udmurt, USSR, site of U.S. continuous portal monitoring.

operations. The treaty also stipulated that there would be a pool of up to 200 portal monitoring inspectors. At any one time, up to 30 of these inspectors could be stationed at the designated Votkinsk missile final assembly plant to monitor the plant's portal and perimeter around the clock, 365 days a year. For escorting Soviet on-site inspectors to U.S. INF missile sites, a designated group of escorts would be the responsibility of the new agency. The air crews, responsible for flying the inspectors and escorts to the designated national points of entry, would be managed by the new agency, and would be limited, by provisions in the Treaty, to no more than 200 members.

Using these National Security Council guidelines, the 10-person, JCS task force began its work. Brigadier General Eugene L. Daniel, U.S. Army, Assistant Deputy Director for International Negotiations, JCS, led the team. General Daniel, who had commanded the 1st Brigade, 24th Infantry Division and who had been involved with the INF negotiations in the preceding months, pulled the task force together and moved into temporary quarters at Buzzard Point in Washington, D.C. "There was no money," he recalled, "no people for a new agency, no structure, just an operational concept embedded in the INF Treaty."[1] The task force also faced the pressure of events. A week after its first meeting, General Secretary Gorbachev arrived in Washington. The following day, December 8, 1987, Gorbachev and Reagan signed the INF Treaty. With the treaty signed, pressure mounted for defining roles, missions, requirements, resources, and service responsibilities.

"There was no money, no people, ...just an operational concept embedded in the INF Treaty."

General Daniel

General Daniel led the overall effort. Major Paul P. Trahan, U.S. Army, task force member and an armor officer trained in organizational

theory and corporate planning, began analyzing and visualizing the treaty's requirements for inspectors, escorts, and aircrews. He developed a briefing concept illustrating the types of on-site inspections, the years they were permitted, and the level of people required. Working together, Daniel and Trahan incorporated this concept into a series of briefings presented to the military service chiefs, the chairman, the senior members of the Office of the Secretary of Defense, and the leadership of the Arms Control and Disarmament Agency. Another task force member, Major Jerome E. Johnson, USAF, began working on arrangements for training courses for inspectors and escorts with the Defense Intelligence College. Marine Corps Lt. Colonel Sebastian V. Massimini began defining computer and communications requirements for tracking the INF on-site inspections and treaty-rclated items. Lt. Commander William G. Evans, U.S. Navy, started defining requirements and resources for Russian linguists. Another Air Force Lt. Colonel, Nicholas G. Caramancia, worked on the difficult issues of air transportation mandated by the rigid schedules written into the Treaty protocols concerning on-site inspections and eliminations. Lt. Commander Robert P. Barton, U.S. Navy, and Army Captain Leon Hutton, developed initial cost estimates of personnel, transportation, and portal housing for the INF mission. Finally, Lt. Colonel Ken Keating, U.S. Army, who had experience as an INF negotiator in Geneva, helped with all manner of issues: logistics, linguists, operations, and organizational structure.[2]



Gates of the Hercules Plant Number 1 at Magna, Utah, site of the Soviet Union's continuous portal monitoring inspections.

The answer to the most pressing question, whether to recommend that the new on-site inspection organization be placed in the Department of Defense or the U.S. Arms Control and Disarmament Agency, came quickly. General Daniel and the task force concluded that the Department of Defense, because of its size (3.3 million people) and resources ($293 billion FY87), had the people, assets, and responsiveness to organize, train, and set up the new inspection agency within 90 days—by April 1, 1988, the anticipated U.S. Senate ratification date. If the U.S. Arms Control and Disarmament Agency (ACDA) (188 people, $29 million FY87) were assigned the mission of establishing the new agency, then Defense Department people and resources would probably have to be reassigned to it for up to three years. In addition, the task force acknowledged the concerns of the Joint Chiefs of the Army, Navy, Air Force, and Marine Corps, about the presence of Soviet INF inspectors on U.S. military bases. Combining these concerns with the assets available in the Defense Department, Daniel's task force recommended that the new on-site inspection agency be assigned to the Department of Defense. Further, they suggested that the Chairman of the Joint Chiefs of Staff, along with the Department of Defense's Undersecretary for Acquisition, and Undersecretary for Policy should constitute a three person executive oversight committee.



Major General Eugene L. Daniel, first Task Force Leader.

Turning these recommendations into a decision did not come easily. General Daniel explained the task force's operational concept, placement rationale, executive oversight, and training schedule to senior officials at the State Department, Arms Control and Disarmament Agency, Office of the Secretary of Defense, Joint Chiefs of Staff, and finally, on December 17, 1987, to General Powell and a National Security Council interagency group. There were some objections, principally from State and ACDA officials who advocated a larger role in treaty implementation. The State Department was the lead department in foreign relations between the U.S. and Soviet governments. The Arms Control and Disarmament Agency had already been assigned special responsibilities by the National Security Council to chair the interagency policy process supporting the United States' delegation to the INF Treaty's Special Verification Commission. As stipulated in the treaty, a small, bilateral U.S.-USSR treaty commission would work on resolving those treaty compliance issues that might arise during the baseline, elimination, closeout, or portal monitoring inspections and to agree on measures to improve the effectiveness of the treaty. In its deliberations, the NSC interagency group considered the task force's recommendations and the objections. They recommended that the President place the new on-site inspection organization in the Department of Defense. Because of the urgency of the moment, the National Security Council directed that the Secretary of Defense should take the "appropriate steps" to see that the new organization would be ready to begin operations when the INF Treaty entered into force.[3]

With this decision in mid-December, the Reagan Administration had resolved many of the organizational issues of how it would carry out its INF Treaty obligations. First, as stipulated in the INF Treaty, the Nuclear Risk Reduction Center, located in the State Department, would channel all official treaty-related communications between the two nations. Next, a new On-Site Inspection organization, affixed in the Defense Department, would manage and conduct all American inspections and escort Soviet inspectors for the duration of the Treaty. Third, U.S. representation to the

Special Verification Commission, mandated by the INF Treaty to resolve compliance questions, would be provided by a senior official assigned administratively to the Arms Control and Disarmament Agency. Finally, other U.S. Government agencies would have the mission of providing and analyzing information on INF Treaty compliance. Policy questions concerning Soviet compliance and verification on the treaty would be defined and discussed in the National Security Council committees by representatives of those departments and agencies—OSD, JCS, ACDA, State, and other agencies— which oversaw all arms control treaties. The President and his senior NSC advisors would make the final decision.

Still unresolved, however, were a host of practical issues: composition of inspection/escort teams, managerial concepts and policies for portal monitoring operations, use of commercial or military airlift, extent of financial resources, location of headquarters and field operating offices, organizational status within the Department of Defense, and even the new organization's name— On-Site Inspection Organization or On-Site Inspection Agency. For the next four weeks, mid-December to mid-January, General Daniel's small task force attacked these issues on a number of fronts. Rather quickly, they recommended that it be named an "agency" over "organization."

The issue of Department of Defense separate agency status or subordination within an existing DOD agency was much tougher. It involved two major issues acutely present in the Reagan Administration in the 1980s. First, General Daniel and the senior officers in the Joint Chiefs of Staff perceived that the new "agency" had to be sufficiently independent to



President Reagan (right) in the Oval Office with Secretary of State George P. Shultz, Secretary of Defense Frank C. Carlucci, and Lt. General Colin L. Powell, Assistant to the President for National Security Affairs.

compete for resources—people, money, equipment—with other established organizations and agencies within the Department of Defense. If the new agency were subordinate to another Defense Department entity, like the Defense Nuclear Agency, then there was the possibility of confusion in the interagency and interservice arenas. Independence implied decisiveness; and decisiveness translated into a quickly-established, professional organization capable of representing the U.S. government with the Soviet government.[4]

If the case for a separate DOD agency was clear, it became considerably muddled when Daniel's task force studied the second major issue—manpower. With figures of 200 inspectors, 200 escorts, and 200 aircrew members, and an undetermined number of managers, planners, trainers, and logisticians, the manpower requirements argued for placing the new agency



General Lajoie, OSIA's first Director, in his small, make-shift office at Buzzard Point, Washington , D.C.

into an existing Defense Department agency. Identifying and reassigning so many people so quickly would be very difficult. Establishing a logistical base for conducting worldwide operations would take time, money, and energy. Setting up the requisite managerial systems required by Congress and DOD regulations would require time and professional expertise. Without question, there were substantial arguments for subordination within an existing Defense Department agency. Proponents of the Defense Nuclear Agency made a strong case, but in January 1988, Admiral William J. Crowe, Jr., Chairman of the Joint Chiefs of Staff, and Frank C. Carlucci, Secretary of Defense, decided to establish a new, separate Department of Defense agency: the On-Site Inspection Agency.[5]

Out of this defining, redefining, and decision making, certain basic assumptions emerged. The new organization—The On-Site Inspection Agency—would be an agency of the Department of Defense. Its Director, a general officer or DOD senior civilian, would report to the Undersecretary of Defense for Acquisition and receive oversight and direction from an Executive Committee composed of that Undersecretary, the Undersecretary for Policy, and the Chairman of the Joint Chiefs of Staff. The Executive Committee would transmit guidance from the interagency policy committee to the new agency. The Director would be appointed by the Secretary of Defense, with the concurrence of the Secretary of State and the approval of the President. The Principal Deputy Director would be from the U.S. Arms Control and Disarmament Agency. Two other Deputy Directors would



In February, 1989, Headquarters OSIA moved to Dulles International Airport outside of Washington D.C. Holding the OSIA emblem are General Lajoie, Shirley McClain, Commander Edward J. Higgins, and David L. Pabst, Deputy Director for International Negotiations.

come from the State Department and the Federal Bureau of Investigation. The bulk of the new agency's people would be drawn from the armed services, along with a few civilian technical experts and support people. Agency headquarters would be at Washington Dulles International Airport. Logistical support for the new agency would be provided by the Defense Nuclear Agency, with contractual support from the Navy, Air Force, and the Defense Contracting Advisory Service. Training courses were to be organized and conducted by the Defense Intelligence College. On

January 15, 1988, the President directed the Secretary of Defense to establish the On-Site Inspection Agency.

Setting Up An Agency

When General Lajoie became OSIA's Director on February 1, he inherited the work of the JCS task force. Lajoie came to Washington from Paris, where he had been serving as the U.S. Defense Attaché. Fluent in French and Russian, he knew first-hand both Europe (the geographical arena for the INF Treaty) and the Soviet Union, its military, and its senior officer corps. His immediate tasks were to organize the new DOD agency, participate in a series of bilateral U.S.-Soviet negotiations on implementing the treaty, and develop and train a cadre of inspectors and escorts to conduct the on-site inspections.[6]

Acting quickly, General Lajoie made a key decision: he directed that the U.S. INF team chiefs, who would lead the 10-person teams into the USSR and escort Soviet teams in the United States and Western Europe, would be entrusted with extraordinary responsibility. During inspections, especially in the Soviet Union, the teams would be isolated, out of direct communications contact, and responsible for making on-the-spot judgments about treaty inspection issues. "I knew we would not have time," Lajoie recalled, "to come up with a comprehensive training program, well-developed procedures, and comprehensive guidance. If I picked good people, I could just rely on their judgment in the absence of all these other things." He interviewed and personally selected each team chief. "The thing that I keyed on [was that] I wanted someone who was familiar with the Soviet environment...but mostly, I wanted somebody whose judgment I could trust." [7]

Each of the first 20 inspection team chiefs was an experienced field grade military officer. Most had at least 15 years of service, advanced degrees, Russian language proficiency, and experience in commanding small teams and military units. General Lajoie emphasized that they would be held accountable for establishing a professional, businesslike tone with the Soviets in conducting the U.S. inspection, escort, and portal monitoring missions. They were also responsible for team discipline, professionalism, and, to a degree, team training. They had to know the entire process of the on-site inspections under the treaty, including the treaty protocols and the Memorandum of Understanding. Decisions as to when to begin and terminate the on-site inspection would be, within certain timelines specified in the treaty, made by the team chief. Team chiefs would be responsible for preparing and signing, on site, the official INF Treaty Inspection Report for each inspection.[8]

Initially, team chiefs were instrumental in selecting team members. The treaty specified that on-site inspection teams be limited to 10 members for three types of INF inspections: baseline, closeout, and short-notice. For elimination inspections, the teams could be expanded to 20 members; for continuous portal monitoring inspections, the teams could have up to 30 inspectors. The first cadre of hand-picked team chiefs assisted in testing, interviewing, and selecting linguists, deputy team chiefs, and inspectors.



U.S. inspectors at Saryozek, USSR.

"...mostly, I wanted somebody whose judgment I could trust."

General Lajoie

By mid-March, 200 inspectors including 20 team chiefs (20 teams), 50 escorts (three field offices), two elimination teams, and several members of the Votkinsk and Magna portal monitoring teams had been identified. Most participated in an initial training course taught by INF Treaty negotiators, Soviet specialists, and senior policy officials. After that course, the work of starting up the agency began in earnest. Colonel Robert B. McConnell, director of operations, concentrated on operational planning and managing the staff's multiple activities. Three team chiefs—Army Lt. Colonel Thomas S. Brock, Marine Lt. Colonel Lawrence G. Kelley, and Army Major Paul H. Nelson—began working through the operational concepts outlined in the treaty and its protocols. Military linguists—including Richard O. Gibby, Floyd L. Riggin, Daniel L. Fodera, Carol J. Dockham, William R. Leaf, Larry R. Nelson, Richard E. Zinnert, and David G. Lafleur—had completed an intensive Russian course and were preparing for mock inspection and escort team training exercises in early April. Army Colonel Ronald P. Forest and Air Force Colonel Gerald V. West were the senior officers responsible for escorting the Soviet inspection teams. They traveled to each of the treaty sites in the United States and checked the accuracy of the official diagrams of U.S. missile facilities and sites listed in the treaty's Memorandum of Understanding.[9]

Colonel Douglas M. Englund, U.S. Army, headed a separate directorate that concentrated on establishing portal monitoring inspection at Votkinsk, USSR, and escort operations at Magna, Utah. Colonel George M. Connell, USMC, Major Mark L. Dues, USAF, and Lt. Commander Charles N. Myers, U.S. Navy, worked with Colonel Englund on all aspects of the continuous portal monitoring inspections. U.S. Navy Commander John C. Williams took on the task of turning the inspector's equipment authorized for short-notice inspections in the treaty and protocols into standardized, rugged equipment that would operate in the extremes of climate in the Soviet Union. He also tackled the issue of providing the inspectors with standardized procedures for measuring the components of each INF missile system. Eileen K. Giglio became

United States INF Treaty Sites.



the agency's liaison with the U.S. Congress. U.S. Navy Commander Kendell Pease devised plans and programs for explaining the treaty and the on-site inspection mission to the public and American and European media. U.S. Navy Commander Marjory M. Stevens worked on getting the military services to release more people: Russian experts, Russian linguists, missile specialists, and administrative support personnel. Within a matter of weeks it became apparent that the new agency was seriously understaffed, especially in the support and logistics area. For everyone at OSIA, working 60 to 70 hours a week was the norm rather than the exception in the spring of 1988.[10]

In Europe, representatives of the five nations where the American INF missiles were based (Great Britain, Italy, Belgium, West Germany, and the Netherlands) wanted to know the new agency's concept of operations. How would OSIA escort the Soviet inspectors? How would the Soviet inspectors arrive, by commercial airline or military airlift? How intrusive would these on-site inspections be? They wanted answers. In mid-March, General Lajoie went to Belgium and briefed the NATO representatives. Earlier, Colonel Keating and Major Trahan had gone to Europe to meet with American embassy staffs and with representatives of the European nations. In late April, General Lajoie returned to Europe, accompanying Secretary of Defense Frank C. Carlucci to NATO Headquarters, where he explained the status of U.S. preparations for carrying out the INF Treaty mission.[11]

The U.S. military commands that operated INF missile bases and facilities wanted information on OSIA's plans for transporting, housing, and escorting Soviet on-site inspection teams. George Rueckert, the agency's principal deputy director, and Air Force Lt. Colonel Michael J. Hritsik, an INF team chief, traveled to Europe to discuss operations plans with senior officers and planners of the U.S. European Command and with representatives of the NATO nations. In the United States, Congress wanted to know how the inspecting and escorting would be conducted. The press in the United States and Europe had questions about the treaty, inspections, escorts, and the agency responsible for the mission. Journalists and television reporters wanted to know about the people leading and conducting the inspections. The Air Force wanted information about OSIA's San Francisco field office. Where would it be located? How large would it be? How many Soviet INF inspectors would arrive at one time? The Army also had questions about INF eliminations. In the spring of 1988 there were many more questions than answers.[12]

Joint U.S./Soviet Technical Talks

As they responded to this blitz of questions about the treaty and OSIA's operational and organizational activities, General Lajoie and key senior officers also participated in a series of U.S.-Soviet "technical talks" held in Moscow, Washington, and Vienna in March, April, and May 1988. The agenda for the bilateral meetings focused on implementing the on-site inspection provisions of the treaty. During treaty negotiations U.S. and Soviet negotiators had acknowledged that certain practical and procedural issues—flight call signs, diplomatic visas, communication message formats, and other matters—were best left out of the treaty text. These issues



In the spring of 1988 the treaty signatories held a series of INF Treaty Technical Talks. The U.S. and Soviet delegations shown here met at the National War College in Washington, D.C. in April 1988.

would be resolved informally in a series of meetings between representatives of the two governments once the treaty had been signed. Each of the three meetings lasted a week; cumulatively they resulted in a range of joint decisions on procedural issues.[13]

Led by General Lajoie and General Major Vladimir I. Medvedev, these technical talks resolved more than a hundred issues on how the two nations would carry out their treaty-specified rights and responsibilities. In March in Moscow, the two delegations agreed on standardizing the photographic and measuring equipment taken to the site by the inspection teams and they discussed how notifications of arrival and departure of the teams would be handled. At these meetings, the leaders and their 13-member delegations resolved 46 issues, including procedures for operating, landing, and refueling INF aircraft flying into and out of each nation's treaty-designated entry points. They agreed that inspectors could have a notebook, paper, writing instruments, flashlight, and hand-held compass. All inspection teams would have uniform weighing and measuring equipment. The initial portal monitoring on-site inspection operations at Votkinsk and Magna were discussed extensively.[14] At a separate U.S.-USSR conference in Washington in April, specific formats for INF Treaty messages were developed; these messages would be sent and received through the respective Nuclear Risk Reduction Centers (NRRCs).

Finally, in May the two delegations met for five days in Vienna and agreed on a wide range of issues facilitating inspections at the portals,

missile sites, and elimination facilities. The issues surrounding the establishment of resident on-site inspection teams at the two portal monitoring sites were taken up in a point-by-point discussion. The treaty granted each nation the right to monitor the portal and perimeter of a designated former INF missile production facility for up to 13 years. Turning this treaty right into an operational reality required extensive working-level negotiations over the construction of permanent facilities for housing the inspectors and the installation of treaty-authorized monitoring systems.[15]

During the technical talks several questions arose regarding how the Soviet Union would interpret the treaty once it had entered into force. Some

INF TREATY TECHNICAL TALKS
Moscow - Washington - Vienna

TOPIC HIGHLIGHTS

AIRCRAFT AND CREWS	INSPECTION PROCEDURES	PORTAL OPERATIONS (VOTKINSK AND MAGNA)
* Flight Plans * Navigation Escort * Alternate Airfields * Diplomatic Aircrew Escort * Aircrew Accommodations	* Accommodations For Soviet Inspectors * Wearing Identification * Solidifying of Technical Data * Communications * Site Transport	* Accommodations * For Soviet Inspectors * Housing * Communication * Transport * Supplies * Diplomatic Travel to Portals * Travel of Inspectors to Embassy / Consulate

of these issues were so serious that they were discussed in the U.S. Senate, then considering ratification of the treaty. As a direct result, Secretary of State George P. Shultz and Foreign Minister Eduard Shevardnadze held extensive consultations in Geneva and New York in late April and early May. Subsequently, the senior negotiators for the two nations exchanged formal diplomatic notes in mid-May, clarifying nine specific INF Treaty issues. These notes, technically called a "diplomatic minute," constituted an understanding about treaty interpretation and became part of the official treaty documents. Resolution of these issues was significant; the U.S. Senate had delayed final debate on the treaty until the diplomatic minute was signed and made a part of the treaty documents.[16]

Briefings, Testimony, Decisions

Congressional scrutiny of U.S. treaty responsibilities was intense. In March and April 1988, four congressional committees held hearings on the INF Treaty.[17] The U.S. Constitution vests in the Senate the power to give its "advice and consent" on all treaties negotiated and signed by the



U.S. and Soviet aircraft at Travis Air Force Base, California.

President. Senior officials from the Reagan administration testified, including the Chairman of the JCS, the military service chiefs, the Secretary of Defense, the Secretary of State, the Director of the Arms Control and Disarmament Agency, and the Director of the FBI. Practically every other week in February, March, April, and May, General Lajoie briefed the JCS, the Secretary of Defense, and senior officials in the Defense Department on the status of inspection and escort preparations. Lajoie appeared before congressional committees, explaining planning and preparations for the treaty mission. These briefings and testimony incorporated the latest information from the technical talks and provided current information on preparations for extensive inspection/escort training exercises in the United States and Europe in April and May. Similar briefings were given to officials at the White House and the Arms Control and Disarmament Agency.

Sandwiched between these briefings and testimony was the decision on how to transport U.S. and Soviet inspection and escort teams. Understanding the airlift requirement was critical. Because of the structure of the treaty, the need would be especially intense during the first 60 days of inspections, the period known as the INF baseline. During that period, U.S. inspection teams would need daily flights into and out of Moscow and flights two or three times a week into and out of Ulan-Ude. At the same time, the U.S. portal monitoring team would be establishing its permanent inspection base at the Votkinsk Machine Building Plant in the Udmurt Autonomous Soviet Socialist Republic. This team also needed airlift support into and out of Moscow on a continuing basis.

U.S. escort teams for Soviet inspectors also required airlift. When a Soviet team arrived at one of the entry points (for example, Frankfurt, Washington, or San Francisco), the U.S. escort team was obligated under the treaty to get them to the INF site within nine hours. This deadline began once the Soviet team chief specified the site to be inspected. For most Soviet inspections, OSIA would need a combination of air and ground transportation. In Europe U.S. missile sites were located in five nations— West Germany, Belgium, the Netherlands, Italy, and Great Britain. Commercial airline schedules would not meet the nine-hour time requirement.

Air Force airlift planners and OSIA's transportation expert, Lt. Colonel Gerald J.K. Heuer, examined other options: leasing a fleet of commercial aircraft, using military airlift from the Air Force, or a combination of the two. The cost of leasing, over $50 million per year, was deemed excessive. The alternative was to assign the mission to the Air Force's Military Airlift Command (MAC). Following a briefing to the joint chiefs in late March, General Lajoie, Colonel McConnell, and Lt. Colonel Heuer flew to Scott Air Force Base, Illinois, on April 6, and met with General Duane H. Cassidy of MAC. General Cassidy said that MAC would take responsibility for transporting U.S. and Soviet teams, their equipment, and other logistical supplies.

The U.S. teams would fly on commercial airlines from OSIA headquarters in Washington to field offices in West Germany and Japan. From there, the teams would travel on Air Force planes to the Soviet Union, East Germany, and Czechoslovakia. Conversely, when Soviet inspection teams arrived in Europe or the United States, an OSIA escort team would meet them

at the point of entry. Then, depending on the distance, the Soviet inspectors would be flown or bused to the inspection site.

Within days of General Cassidy's decision, General Lajoie was able to incorporate this airlift arrangement into the April technical talks in Washington. There, discussions turned to practical issues such as military and civilian logistical flights, aircraft call signs, and housing requirements for the air crews.[18]

Mock Inspections

Another key decision was when and how to conduct a series of full-scale, on-site training inspections at all of the U.S. INF missile sites in Europe and the United States. In early March, General Lajoie had asked Colonel Ronald P. Forest, then chief of the escort division, to begin planning for mock inspections. They would involve hundreds of inspectors and escorts and several thousand INF missile and support systems people, and would be held at all 31 U.S. INF missile sites in the United States and Europe. Forest, an advisor to the INF Treaty delegation and a former Pershing battalion commander, assembled a small group of officers and began developing a plan for the training exercise. Army Major John D. Allen, Army Captains Dalton D. Graham and James Laufenburg, and Air Force Captain Michael W. Slifka scheduled the teams, coordinated those schedules with the military services and sites, and set up a system of evaluation. After three weeks, Lajoie reviewed and approved their plan.[19]

OSIA's mock inspections would run for a month, beginning on April 7, and would simulate treaty baseline inspections of every U.S. site. Inspection and escort teams would follow the procedures specified in the treaty



In 1988, the U.S. held full-scale mock training inspections at Air Force and Army INF sites in the United States and Western Europe. Soviet inspectors conducted similar mock training exercises at USSR INF sites in 1988.

"READ, DIGEST, MEMORIZE THE TREATY. All of us have to be THE EXPERTS."

Captain Olsen

and the protocols. The inspections would test the operations plans developed by OSIA, the Army, the Air Force, and the sites themselves. However, as the starting date grew near, Colonel Forest and Colonel Robert McConnell, the agency's director of operations, recommended postponement. They believed that for logistical, service coordination, and personnel reasons (several team chiefs and members would not be available to participate) delay would be the wiser choice.[20]

General Lajoie thought otherwise. He forced the issue, directing that the practice inspections must begin on April 7 at Greenham Common Air Base, England, and end by May 11 at all 31 sites. The Senate Foreign Relations Committee had completed its hearings with a favorable vote of 17 to 2 on March 30, 1988. Treaty approval by the full Senate could come within weeks. Once ratified, the treaty would enter into force quickly. Lajoie believed that the mock inspections were the key to readiness. They would test not only OSIA's inspection and escort teams, but also the Army and Air Force, which operated the INF missile sites, as well as the industrial corporations that owned the missile assembly plants. As the exercise progressed, it incorporated the use of military airlift, the new communications networks, and the provisions for operational security at every step in the inspection process. With Lajoie's decision, the pace of activity accelerated.

Colonel McConnell notified each team chief and member immediately. He challenged them to "get it right the first time" and set up OSIA exercise controllers to critique each inspection.[21] OSIA's director of inspections, Navy Captain David E. Olson, penned a personal note to his team: "READ, DIGEST, MEMORIZE THE TREATY. All of us have to be THE EXPERTS."[22] All 31 U.S. INF missile and missile-related sites listed in the Memorandum of Understanding participated in these mock inspections. Once a mock inspection began, the inspection teams communicated in Russian and conveyed their requests only to escort team chiefs and linguists. The inspection team used actual treaty site diagrams; they followed the treaty and its protocols. The entire site was usually inspected twice, with the escort team accompanying the inspectors at all times. By the end of the six weeks of mock training inspections nearly all of the American inspectors and escorts (with the exception of the portal monitoring teams) had been through one or more inspections.[23]

In Europe, at the 12 Pershing II and GLCM missile bases and depots, the mock inspections were seen as critical because most Soviet inspections would take place at these bases. In February and March, Air Force Colonel John Fer and Army Lt. Colonel Scott G. Lang had set up OSIA's European field office at Rhein-Main Air Base at Frankfurt, West Germany. In the United States, Air Force Colonel Gerald V. West and Army Lt. Colonel Claesen D. Wyckoff had set up an OSIA field office in Washington at Dulles International Airport. Near San Francisco, Colonel Thomas E. Smalls, U.S. Army, and Lt. Colonels Robert Yablonski and Stephen B. Boyd, USAF, established an OSIA field office at Travis Air Force Base. Each of these field offices participated extensively in the mock exercises.

In Washington, Marine Lt. Colonel Sebastian V. Massimini and Army Major John D. Allen, together with SFC Jose R. Amaya, SFC Glenn L. Clark, TSgt. Mark A. Havican, RM1 James O. Brooks, and RM1 Michael A. Mallard, assembled a staff to set up and run a 24-hour-a-day OSIA

OSIA MOCK INSPECTION SCHEDULE
Spring 1988

Site	Inspection Date
Greenham Common	7 April
Molesworth	8 April
Sabca-Gosselies	12 April
Florennes	13 April
Redstone Arsenal	13 April
Comiso	15 April
Fort Sill	19 April
Fort Huachuca	19 April
Woensdrecht	20 April
Davis-Monthan	21 April
EMC Hausen	26 April
Pueblo Army Depot	26 April
Weilerbach	28 April
Wueschheim	29 April
Dugway PG	3 May
Schwaebisch-Gmuend	3 May
Cape Canaveral	5 May
Waldheide-Neckarsulm	5 May
Neu Ulm	6 May
Plant 19 San Diego	10 May
Comiso	7 June
Martin Marietta	9 June

RECALLING THE MOCK INSPECTIONS

Lt. Colonel Robert Yablonski, USAF, remembered participating in the mock inspections in the spring of 1988. An experienced field grade officer, he had been an air attache' in the American Embassy in Moscow, an Olmstead Scholar to France, and a RAND Fellow prior to his work at OSIA's San Francisco Field Office. As one of the American senior escorts, Colonel Yablonski participated in many of the initial inspections.

"The mock inspections were, no doubt, one of the wisest things we did. Whoever decided to do it, I give them great credit. They performed a number of functions internally in terms of identification with the mission, the escort mission, what it really meant to escort inspectors, and it helped reveal a lot about how inspections should go."

"By actually doing the inspections, by making mistakes, it helped us immeasurably. In fact, it was in the interest of the United States to make mistakes, so that when the treaty went into force on June 1, 1988 and the real inspections began, the U.S. would have its act together."

"The other very important thing about the mocks was the face-to-face contact between the inspectors and the escorts with the treaty-in-hand. I really felt that they had a great didactic and educational function in letting the people at the air bases and army sites learn what the Soviets were going to be like."

"We acted on the principle that it was reasonable to expect a consistency of treatment across the gamut of Air Force installations, both in the United States and in Europe."

"We found out that as you undertake anything, it helps to have a plan, it helps to have a schedule. What really emerged was the necessity to communicate to a broad spectrum of people. The inspection process involved a great deal of coordination to the logistical infrastructure. Then there was another infrastructure for security. All these things had to be done."

"So what became evident during these mock inspections in 1988 was that OSIA didn't own any resources of its own, but that it had the charter to, pardon the word, influence all of these other people to do what had to be done under the requirements of the INF Treaty."

Source: Interview, April 4, 1989



Davis-Monthan Air Force Base, Arizona, September, 1989.

operations center. This operations center participated in the mock inspections, as did the Military Airlift Command. The European Command also participated fully, experiencing for the first time how on-site inspections would intrude on military operations. That experience was invaluable. OSIA escort teams were responsible for coordinating and controlling the Soviet inspectors throughout the inspection. During the mock inspections the OSIA escort team chiefs, linguists, and members became familiar with all aspects of the treaty, and they learned to work closely with the Pershing II and GLCM site commanders.

For Colonel McConnell the inspections were a real turning point.[24] For General Lajoie they signaled "the most useful training that had been done."[25] For the escort team chiefs and site commanders the inspections were a chance to work through coordination issues, especially with the military services and commands in Europe.

The American military officers who would lead the teams into the Soviet Union also found the mock inspections useful, but still felt a measure of uncertainty.[26] Apprehension ran high in the weeks following the final mock inspection at Comiso, Italy. In less than six weeks, Americans would be traveling into the Soviet Union to conduct inspections of Soviet military forces and missile sites never before visited by U.S. officials. Among the team chiefs, linguists, and inspectors, tensions increased rather than lessened as the date for the first on-site inspections approached.

The Moscow Summit

On June 1, 1988, President Reagan stood in the Kremlin and presented the INF Treaty and the U.S. articles of ratification to General Secretary Gorbachev. The U.S. Senate had ratified the treaty by a 93 to 5 vote on May 27; the instruments of ratification had been flown to Moscow for the ceremony. At the moment the two leaders exchanged documents, the treaty entered into force. Thirty days later, on July 1, both parties had the right to initiate on-site inspections. Both intended to do so.

From the beginning, OSIA's operational concept called for the forward deployment of inspection teams at agency field offices in Europe and Japan before departing for inspections in the Soviet Union. In mid-June, teams of inspectors departed from OSIA headquarters in Washington and flew east to Frankfurt, or west to Tokyo. At Rhein-Main and Yokota air bases, each team received inspection equipment, supplies, and final instructions before embarking on Air Force planes for the flights to Moscow or Ulan-Ude. U.S. portal monitoring inspection teams entered the Soviet Union in the same way, from Frankfurt through Moscow to Votkinsk.[27]

"Trust everybody, but always cut the cards."

President Reagan

Just before their departure, President Reagan invited General Lajoie and 15 INF inspectors and escorts to the White House. The President listened to their plans in the Oval Office. There, surrounded by the departing American inspectors and escorts, he commented on their forthcoming mission: "Trust everybody, but always cut the cards."[28]

NOTES: CHAPTER 2

[1]Interview with Brigadier General Eugene L. Daniel (USA), Joint Chiefs of Staff, June 7, 1989.

[2]Interview with Major Paul P. Trahan (USA), OSIA, April 20, 1989.

[3]Ibid. See also Interview, Daniel; and *INF Treaty*.

[4]Interview, Trahan (USA), OSIA, April 20, 1989.

[5]Interview, Daniel.

[6]Interview with Brigadier General Roland Lajoie (USA), Director OSIA, March 1 and 29, 1989. See also: Interview with Colonel Robert B. McConnell (USAF), OSIA, February 2, 1989; *Washington Times*, February 5, 1988, p. 3; *Defense News*, February 15, 1988, p. 16; and *Washington Post*, February 15, 1988.

[7]Ibid.

[8]Ibid.

[9]Interview with Commander Kendell Pease (USN), OSIA, February 1, 1988; See also: Interview with Colonel Ronald P. Forest (USA), OSIA, November 15, 1989; Interview, McConnell; and Interview, Trahan.

[10]Interview, McConnell.

[11]Interview, Trahan.

[12]Interview, McConnell. See also: Interview, Trahan.

[13]*Reports of the Technical Consultations Between the United States and Soviet Experts on Implementation of the INF Treaty*, 9-12 March, 13-21 April, 18-22 May, 1988. See also: Interview, Lajoie; *Washington Post*, May 13, 1988, p. A1; *Washington Post*, June 1, 1988, p. 29; Secretary of State George P. Schultz, *Testimony Before the US Senate Foreign Relations Committee—The INF Treaty: Strengthening US Security* (Washington, D.C.: U.S. Department of State, Bureau of Public Affairs, May 16, 1988), pp. 8-9.

[14]Briefing at OSIA headquarters, May 5, 1988. All positions on these INF Technical Talks issues were coordinated with senior officials throughout the U.S. government.

[15]*Reports of the Technical Consultations*. See also: *Washington Post*, June 1, 1988, p. 29.

[16]*INF Treaty Diplomatic Minute*, signed in Geneva, Switzerland, on May 12, 1988. See also: *Washington Times*, March 15, 1988, p. 5; *Washington Post*, May 13, 1988, p. A1; Shultz, *Testimony*, pp. 5-9; *Washington Post*, June 1, 1988, p. 29; Arms Control Association, *Arms Control Today* (Washington, D.C.), July/August 1988.

[17]Senate Committee on Foreign Relations, *INF Treaty*. See also these reports: Senate Committee on Armed Services, *NATO Defense*; Senate Select Committee on Intelligence, *Monitoring*; House of Representatives Committee on Foreign Affairs, *Compliance*.

[18]Betty R. Kennedy, *Supporting the INF Treaty: Report by the USAF Military Airlift Command* (Scott, AFB: Office of the Historian, November 1989), pp. 29-41. See also: Interview, McConnell.

[19]Interview, Forest.

[20]Interview, McConnell. See also: Interview, Forest.

[21]Colonel Robert B. McConnell, OSIA Director of Operations, "Letter to INF Inspectors," March 23, 1988.

[22]Captain David Olsen (USN), OSIA Director of Inspections, "Memorandum to INF Inspectors," March 24, 1988.

[23]Interview, McConnell.

[24]Ibid.

[25]Interview, Lajoie.

[26]Interview with Lieutenant Colonel Thomas Brock (USA), OSIA, and Lieutenant Colonel Paul Nelson (USA), OSIA, November 13, 1989.

[27]Brigadier General Roland Lajoie, in "INF and the On-Site Verification Process," *Defense Issues* (Pentagon: Office of the Assistant Secretary of Defense, July 14, 1988), Vol. 3, No. 39, pp. 1-3.

[28]As quoted in a conversation with Brigadier General Lajoie, June 26, 1988.

CHAPTER 3

INF TREATY PROCESS



At the opening of the U.S. Nuclear Risk Reduction Center, one of two INF Treaty communications centers, Secretary of State George Shultz and Soviet Foreign Minister Eduard Shevardnadze were joined by U.S. Senators John Warner and Sam Nunn.

The INF Treaty, with its new provisions for scheduled missile eliminations and on-site inspections, placed both the United States and the Soviet Union squarely into an active arms reduction process. That process included the mandatory use of new U.S. and Soviet Nuclear Risk Reduction Centers (NRRCs) for communicating all official treaty data and notifications. It also included, in specific treaty language, the right of both nations to use national technical means (NTM) of verification. Further, the treaty required the two parties to establish a Special Verification Commission (SVC) to resolve questions relating to compliance and to agree on measures that could improve the "viability and effectiveness" of the treaty.

These three components—NRRCs, NTM, and SVC—had specific functions in the process of carrying out and monitoring the treaty. The missile systems, themselves, were owned by the respective military services. These services—the Soviet Strategic Rocket Forces, the U.S. Army, and the U.S. Air Force—operated the intermediate-and shorter-range missiles. They were responsible, on orders from their national command centers, for decommissioning, transporting, and eliminating the INF missiles. In all, nearly 2,700 missiles, including some of the most modern, accurate missile systems of the Soviet Union and the United States, would be eliminated. It was the destruction of these weapons, along with the unprecedented on-site inspection and cooperative measures rights, that gave the INF Treaty its historic significance.

The Soviet SS-20 Threat and NATO's Dual Track Response

Between 1977 and 1987, the Soviet Union deployed 654 SS-20 missiles and 509 launchers in 48 Strategic Rocket Forces regiments.[1] The SS-20 was a modern intermediate-range missile, with a solid-rocket motor, inertial guidance, and three independently targeted reentry vehicles. The missile had the capability of delivering three nuclear weapons of up to 250 kilotons each. It was also mobile. Mounted on a large, 12-wheeled truck that functioned as a missile transporter, erector, and launcher, the SS-20 missiles operated away from fixed missile bases. In comparison with older Soviet SS-4 and SS-5 missile systems, the SS-20s had much greater mobility, higher readiness, and significantly increased firepower. Late in 1977, the Soviet Union began deploying SS-20 regiments in the western republics; later, on missile operating bases throughout the USSR. Because



The Soviet SS-20 intermediate-range missile system had a solid-rocket motor, inertial guidance, and a warhead capable of carrying three nuclear weapons. By 1987 the USSR had deployed 654 SS-20 missiles.

these were intermediate (less than 5,500 kilometers) and not strategic missiles, the SS-20 deployments threatened to change the nuclear balance of power in Europe.[2]

West German Chancellor Helmut Schmidt led NATO leaders in examining the new threat throughout 1978 and 1979. Their assessment concluded that the SS-20's mobility, multiple warheads, readiness, and accuracy (estimated 300 meters at 5,000 kilometers), when coupled with the Soviets' simultaneous deployment of new Backfire bombers, was cause



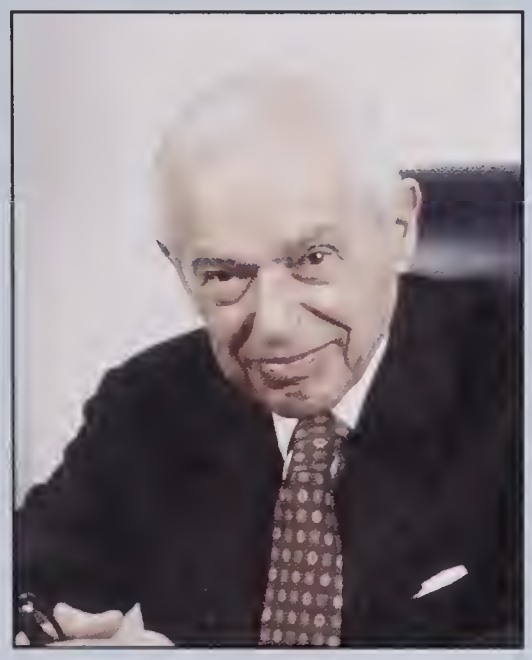
The U.S. Air Force developed and fielded the Ground-Launched Cruise-Missile (GLCM) in the 1980s. Based in Western Europe, the deployment of these intermediate range American missiles created a major crisis in the NATO alliance.

for a fundamental reexamination of the NATO alliance. As a direct result, NATO's foreign and defense ministers in late 1979 adopted a "dual track" strategy of modernizing the existing European-based, ground-launched tactical nuclear missle systems while simultaneously pursuing arms control treaties to reduce the SS-20 threat. Throughout Western Europe in the 1980s this strategy became one of the most divisive public issues in the 40-year history of the alliance.[3] Huge crowds demonstrated against deploying the American missiles. NATO nations remained resolute.

The first element of NATO's new strategy proposed stationing 677 American Pershing II and BGM-109Gs in Western Europe. The Pershing II was a modern, highly accurate, ground-based intermediate-range ballistic missile with a maximum range of 1,800 kilometers. Developed and tested by the U.S. Army in the late 1970s, it had a two-stage solid-fuel rocket motor, both an inertial guidance and a terminal guidance radar system, and a single reentry vehicle. The Pershing II was mobile; it was carried on and fired from a missile erector launcher towed by a large tractor truck. The Pershing II succeeded the Pershing I and IA missiles, two earlier tactical missile systems that had been based with U.S. Army forces in West Germany.[4] The NATO ministers approved replacing the three U.S. Army battalions of 108 Pershing IA missiles with an equal number of Pershing II



GLCM launch.



Nitze on INF Terminology

"Behind the eventual name of the talks—the Intermediate-range Nuclear Forces, or INF, negotiations—there is an interesting story. Shortly before being designated as chief INF negotiator, I flew to Europe for preliminary consultations with our allies. At that time nearly everyone in the press and in the United States government was referring to the upcoming talks as either the 'Euromissile talks' or the 'theater nuclear forces negotiations.' During my trip it became clear that our allies disliked this terminology. They thought the phrase "theater nuclear weapons" gave the wrong impression in that it suggested a disassociation of a nuclear war in Europe from one involving an exchange between the United States and the Soviet Union. What the allies wanted was a coupling of the relatively weak deterrent in Europe to the stronger U.S. intercontinental deterrent. I thought they had a valid point with respect to the name to be given the negotiations and raised the issue at one of our subsequent delegation meetings in Washington. After we had examined the problem from a variety of perspectives, I finally proposed that we call the talks the 'intermediate-range nuclear force' negotiations instead of 'theater nuclear force' negotiations to establish the concept that the weapons we were to deal with were determined by their range, not by their geographic place of deployment. That was consistent with the line we had taken in SALT, and it seemed to me equally proper in connection with these negotiations."

Source: Paul Nitze, *From Hiroshima to Glasnost*, p. 369.

battalions and missiles. Full-scale development began in 1979, with the first battery achieving operational status in Europe in December 1983. When the INF Treaty was signed in December 1987, the U.S. Army had 120 Pershing II missiles and 108 launchers in operational battalions in West Germany[5]

The American BGM-109G ground-launched cruise missile (GLCM) was the second intermediate-range missile to be authorized for deployment in Europe by the NATO ministers in December 1979. Developed and fielded by the U.S. Air Force, this cruise missile relied on revolutionary turbofan-jet technology to propel it over a 2,500 kilometer range in a low flight trajectory that avoided radar detection. The missile was capable of carrying a nuclear warhead. The basic combat unit, called a flight, consisted of 16 cruise missiles loaded on four transporter-erector-launchers, with two mobile launch control centers. Flights were grouped into combat wings. The entire missile wing was mobile.[6] Between 1983 and 1987, the Air Force deployed these cruise missiles on bases in five NATO nations: Great Britain, West Germany, Belgium, Italy, and the Netherlands. The United States, acting in concert with its NATO allies, had deployed 309 GLCMs by the time of the INF Treaty in 1987.[7]

The second part of NATO's dual track strategy concerned initiating diplomatic negotiations between the United States and the Soviet Union.

Shevardnadze on Verification



"Throughout the postwar history, the question of verification occupied a central place in Soviet-American relations... One of the main achievements of recent years was the universal recognition of the idea of verification, whereby confidence-building measures and the possibility of monitoring are organically combined as an unconditional norm of political reliability... In recent years great strides have been made in understanding that openness is the principal factor in any sort of progress—intellectual, material, or social. Security, long an arena for a two-sided game of hide-and-seek, has not been overlooked in this process. A historical threshold was crossed when all the European governments accepted the principle of on-site inspection at the Stockholm talks. Now this principle is being applied in practice through monitoring the destruction of nuclear missiles and other confidence building measures. So far, not a single complaint has been heard that the inspections and verification have compromised anyone's security. The success and usefulness of verification are so certain that its application has markedly increased. If we intend to continue on this path we have taken thus far--reducing troops and weapons, dismantling the enormous structures of military antagonism...then we need an even more effective, versatile, and reliable system of verification."

Source: Eduard Shevardnadze, *The Future Belongs to Freedom*, pp. 89-91

The NATO ministers acted in mid-December 1979. However, two weeks later the Soviet Union invaded Afghanistan. This development, which hardened U.S.-Soviet relations for several years, halted all treaty negotiations. Not until October 1981 did negotiations resume on reducing European ground-based intermediate nuclear weapons. After President Reagan assumed office in January 1981, the United States put forth in November 1981 a new negotiating position, the "zero option": no U.S. tactical nuclear missiles would be deployed in Europe in exchange for the Soviet Union's eliminating its deployed INF missiles, including the modern SS-20s and the older SS-4s and SS-5s.[8]

Announced publicly on November 18, President Reagan's zero option proposal was countered a week later by General Secretary Leonid Brezhnev's public announcement calling for a bilateral freeze on INF missile deployments in Europe. The ultimate goal, Brezhnev declared, would be the elimination of all nuclear weapons from Europe. Because the Soviet Union's and the Warsaw Pact nations' conventional military forces far outnumbered NATO's conventional forces, the idea of no nuclear weapon systems defending Western Europe was unacceptable to NATO leaders. On the other hand, the idea that the Soviet Union might accept the zero option proposal was unacceptable to Soviet military and political leaders. Given these public positions, the INF negotiations stalled for several years.[9]

Two developments revived treaty negotiations. First, in late 1983 and throughout 1984 American Pershing II and GLCM operational units began deploying to Western Europe. With these deployments (which were carried out over considerable public opposition in West Germany and Great Britain), NATO's theater nuclear forces added a significant new military force. Highly accurate, constantly ready, and operationally mobile, the Pershing II and GLCM missile systems set the stage for renewed treaty negotiations. The second development was Mikhail Gorbachev's selection in March 1985 as the General Secretary of the Communist Party of the Soviet Union. Gorbachev reversed or altered many of the Soviet Union's negotiating positions on the INF Treaty.[10]

The ins and outs of treaty negotiations over the next two years were extremely complex. The INF Treaty played a prominent role in the Reagan-Gorbachev Geneva Summit of November 1985 and the Reykjavik Summit in October 1986. At these summits and other meetings, Gorbachev agreed that any INF Treaty would be bilateral and that the final objective was zero missiles. At Reykjavik, Gorbachev offered to expand the INF Treaty to include shorter-range as well as intermediate-range ground-based missile systems. This was Gorbachev's "double-zero" offer, proposing a freeze in Soviet shorter-range missile deployments in exchange for a commitment from the United States and West Germany to eliminate all their shorter-range missiles (Pershing IAs). President Reagan rejected this offer because it was linked to a halt in the Strategic Defense Initiative (SDI). Six months after the Reykjavik Summit, Gorbachev influenced the INF Treaty negotiations once again, offering to eliminate, not freeze, the Soviet Union's European-based shorter-range nuclear missile systems (SS-23s and SS-12s). The Soviet leader dropped his demand for eliminating the SDI program, but he insisted that the United States and West Germany must destroy the Pershing IA missiles.[11]

On April 23, 1987, Soviet negotiators in Geneva placed a draft INF Treaty on the table incorporating these provisions as well as a verification regime that included on-site inspections. Three months later, in July, Gorbachev offered to eliminate all of the Soviet Union's Asian-based shorter-range missiles in exchange for West Germany's pledge to eliminate its Pershing IAs after the elimination of the U.S.-Soviet INF missiles. In August, West German Chancellor Helmut Kohl agreed.[12] In September, American and Soviet negotiators in Geneva began working out the last details of the treaty text and protocols. One aspect of the completed treaty was a requirement for both parties to use the recently established U.S. and Soviet Nuclear Risk Reduction Centers for communicating the mandatory treaty notifications and biannual data exchanges.

The New Nuclear Risk Reduction Centers

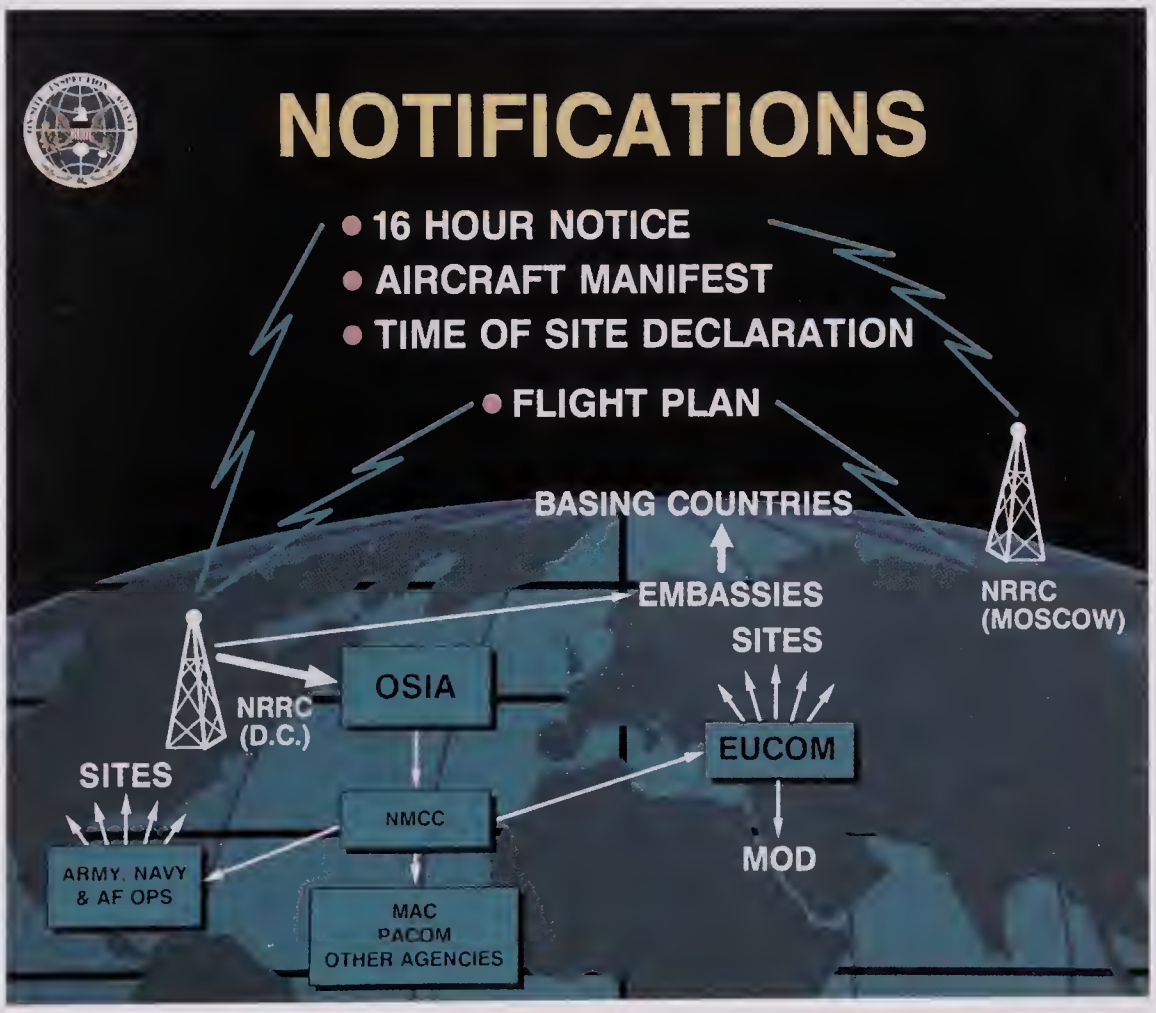
In the early 1980s two U.S. Senators, Sam Nunn (D-Ga.) and John W. Warner (R-Va.), advocated that the United States and the Soviet Union establish "crisis control centers" to reduce the risk of nuclear conflict. These centers would not duplicate the existing U.S.-Soviet "Hot Line" established in 1961 through a bilateral agreement. The Hot Line was reserved for heads

of state to communicate in writing or by fax in times of emergency or crisis. The proposed new Nuclear Risk Reduction Centers (NRRCs), according to Senators Nunn and Warner, would communicate information in such areas as impending ballistic missile launches, notifications of any nuclear accidents, or reports of naval incidents on the high seas. They believed that the U.S.-Soviet nuclear centers might provide critical information in normal times and could serve as an additional communications channel in times of crisis.[13]

The Reagan administration, after considerable discussion, refined this concept. Then they formally presented it at the Geneva Summit in November 1985. There, Reagan and Gorbachev signed an agreement establishing a joint experts study group to determine the feasibility of setting up permanent national nuclear crisis communications centers.[14] Out of these experts meetings, the two nations agreed to set up the centers, which would be equipped with direct, reliable, high-speed communications links. Their principal function would be to exchange information and notifications required under current and future arms control agreements and treaties. On September 15, 1987, the centers became a reality as U.S. Secretary of State George P. Shultz and Soviet Foreign Minister Eduard Shevardnadze, in a formal White House ceremony, signed the agreement establishing the Nuclear Risk Reduction Centers.[15] President Reagan attended, characterizing the agreement as "another practical step in the [two nations'] efforts to reduce the risks of conflict."[16]

"another practical step in the (two nations') efforts to reduce the risks of conflict."

President Reagan



Essentially, the NRRC Agreement established communications, not crisis management, centers with permanent status. Located in the respective capitals, equipped with modern computers and fax machines, staffed with communications and language experts, the NRRC facilities were authorized for an unlimited duration.[17]

At first, the function of the two NRRCs was to communicate notifications of ballistic missile launches in accordance with a 1971 Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the United States and the Soviet Union. In addition, the new centers were assigned the role of communicating information stemming from the 1972 U.S.-Soviet Agreement on the Prevention of Incidents On and Over the High Seas. However, only three months after the agreement establishing the new NRRCs went into effect, the INF Treaty was signed in the White House on December 8, 1987.[18]

The INF Treaty's communications demands were enormous. Article XIII, paragraph 2, specified that the parties would use the NRRCs for "continuous communications" regarding official treaty matters. Specifically, these matters included exchanges of data detailed in the INF Treaty Memorandum of Understanding; notifications of the arrival time at the point of entry for all on-site inspection teams; notifications of INF missile system movements and eliminations; notices requesting cooperative measures for initiating national technical means of verification; notices of lists of proposed inspectors and aircrews, flight plans, aircrew lists; and clarifications necessary under the treaty's inspection and elimination protocols.[19] These INF Treaty requirements caused a major increase in the day-to-day treaty-related communications between the United States and the Soviet Union.

Specific formats for the INF Treaty notifications, lists, and messages were developed during a series of joint U.S.-Soviet INF Treaty Technical Talks held in Washington, Moscow, and Vienna in the spring of 1988. These talks focused on the practical requirements for carrying out the on-site inspections in accordance with the treaty and its protocols.[20] In April 1988, the directors of the Soviet and American NRRCs met in Washington at a separate U.S. State Department conference, which produced specific INF Treaty message formats and procedures for communicating between the two centers.[21] In all, the two parties agreed to use more than three dozen official INF Treaty-formatted messages. When the treaty entered into force on June 1, 1988, the level of communications activity began at a high pitch. It accelerated in July, August, and September, as the United States and the Soviet Union began their INF baseline, continuous portal monitoring, elimination, and closeout inspections. With the addition of these INF Treaty responsibilities, the NRRCs emerged in their first year as significant new diplomatic communications centers.

The U.S. Department of State was assigned responsibility for operating the U.S. Nuclear Risk Reduction Center. The first NRRC director, H. Allen Holmes, held the rank of assistant secretary of state. He was assisted by a staff director, David H. Swartz, an experienced Foreign Service Officer, and a deputy staff director, Colonel Harold W. Kowalski, USAF, a senior communications officer. They directed the 17-member staff that operated the 24-hour-a-day communications center from a seventh-floor room in the Main Building, U.S. Department of State. Equipped with high-speed computers—two for transmitting, one for receiving, and one in reserve—and facsimile machines, the NRRC communicated with its Soviet counterpart via satellite. Full texts of messages and graphics could be transmitted rapidly. For each tour of duty, the American center was staffed with both communications specialists and Russian language experts.[22]

On the Soviet end of these special government-to-government communications links was the Soviet Nuclear Risk Reduction Center. Directed by General Major Vladimir I. Medvedev and his deputy, Colonel Nikolay B. Shabalin, the Soviet center was located in the Ministry of Defense in Moscow. Although its initial mission stemmed from the same Soviet-American bilateral agreements governing ballistic missile launches and incidents on the high seas as the American NRRC, the INF Treaty altered the Soviet NRRC in a fundamental way. According to an interview with General Medvedev in *Krasnaya Zvezda* (Moscow) in 1989, the Soviet NRRC was the direct result of "new political thinking." He indicated that the agreement was prepared and signed "quickly" in late summer 1987. In the fall of 1987, Medvedev stated, the Soviet NRRC was assigned responsibility for conducting all official communications for the INF Treaty, then in the final stages of negotiations. At the same time, he explained, the Soviet center was given the mission of conducting all on-site inspections and escorts associated with the treaty. It was a "new and considerable task," he indicated, because it meant that the Soviet NRRC would combine in one organization the official INF Treaty communications functions with the treaty's inspection and escort functions. "In our view," General Medvedev concluded, "this structure is better as far as implementation of the treaty tasks is concerned...."[23]



General Vladimir I. Medvedev, Director, Soviet NRRC.

National Technical Means and Treaty Constraints

The INF Treaty stipulated that each party would recognize and facilitate through "cooperative measures" the use of national technical means (NTM) of verification. Essentially, these treaty provisions formally recognized the use of reconnaissance satellites and remote sensing equipment as national technical means to monitor areas and systems to help make decisions about verification. Verification was the policy process that one nation used to judge whether the other nation was complying with an arms control treaty or agreement.[24]

The U.S. verification regime for the INF Treaty began with the treaty itself. Specific obligations were placed into the language of the treaty, making it explicit what constituted compliance in terms of eliminating the INF missile systems, closing or converting missile operating bases, conducting on-site inspections, and carrying out collateral constraints. Collateral constraints included restrictions on either party's using concealment measures to impede verification by NTM. These constraints included the obligation to cooperate with a request for use of NTM to monitor certain non-INF missile bases. No later than six hours after a request, the inspected party had to open the roofs of all fixed structures and move the missiles and their launchers out of the shelters.[25]

Other constraints were written into the treaty. For example, one constraint specified a set of obligations restricting the movement of INF missiles and launchers from their missile operating bases to elimination sites without prior notification. When proper notification had been given through the NRRCs, the movement could occur. Treaty language further constrained either party from moving or transporting the INF missiles on their launchers. This distinction was significant. The SS-20s, SS-23s,



Soviet SS-12 launchers went by rail from Bischofswerda, East Germany to the Soviet elimination facilities at Stan'kovo. The treaty required prior notification before the movement of any missiles, launchers, or support equipment.

SS-12s, SS-4s, Pershing IIs, and BGM-109Gs (GLCM) were mobile missile systems in which the missiles were mounted on mobile launch vehicles. By separating the two as they were moved from the missile sites to the elimination sites, the capability, however remote, for a sudden launch was eliminated.[26]

Another collateral constraint specified that during the first three treaty years each party would carry out certain "cooperative" measures to enhance the use of national technical means of verification. Specifically, these measures required the inspected party (in this case the Soviet Union) that possessed road-mobile, ground-launched, ballistic missiles with a range greater than 5,500 kilometers (and thus not limited by the INF Treaty) to open, within six hours of receiving a request, the roofs of all fixed structures, and to remove from those structures the missiles and launchers. The missiles and launchers had to be displayed in the open without concealment and the shelter roofs had to be left open and the missiles and launchers in place for up to 6 hours. Each party had the right to make up to six requests for these cooperative measures each year.[27]

Essentially, national technical means of verification were used in the INF Treaty process to monitor all facets of activity associated with treaty compliance. By contrast, INF Treaty on-site inspections were limited to monitoring activity within a prescribed area during a specific period of time. Both, however, were part and parcel of the monitoring function of the INF Treaty. The information that they gathered was one part of the verification regime. Analysis, evaluation, and, finally, judgment on treaty compliance and verification by national political leaders constituted the other parts.



The U.S. notified the Soviet government thirty days in advance of the movement of this GLCM launcher. On April 11, 1990, the launcher was loaded onto an Air Force C-5A transport aircraft.The flight went from Hahn Air Base, West Germany to Davis-Monthan Air Force Base, Arizona.

Special Verification Commission

When the INF Treaty entered into force on June 1, 1988, so too did the Special Verification Commission (SVC). Meeting in Geneva, Switzerland, the commission held its first session from June 6, 1988, to July 15, 1988. Its charter was to resolve questions relating to treaty compliance and to agree upon measures necessary to improve the viability and effectiveness of the INF Treaty.[28] Essentially, this charter meant that the Soviet and American commission members would address questions relating to treaty compliance and develop joint statements, usually referred to as memoranda of agreements, on the procedures necessary for carrying out the provisions relating to inspections under the treaty. In the first SVC session, the commissioners agreed to apply "provisionally" those INF inspection and escort procedures relating to equipment and methods that had been developed before the treaty's entry into force on June 1, 1988. In the spring of 1988, U.S. and Soviet delegations had met in Moscow, Washington, and Vienna in a series of INF Treaty Technical Talks. One product of those technical talks was a set of on-site inspection procedures that the two parties agreed would apply "provisionally" until a joint U.S.-USSR memorandum of agreement on the inspection/escort provisions could be fully developed and signed by the Special Verification Commission.[29]

The commission's procedures and processes were not specifically defined in treaty language. Consequently, one of the first items of business, concurrent with the development of inspection procedures, was to negotiate

a memorandum of understanding for the commission itself. While these deliberations were under way in the summer and fall of 1988, Soviet and American on-site inspectors were carrying out more than 200 baseline, continuous portal monitoring, elimination, and closeout inspections. Seven months after the INF Treaty went into effect, on December 20, 1988, the U.S. representative to the SVC, Ambassador Steven E. Steiner, and the Soviet representative, Ambassador Mikhail N. Strel'tsov, signed the SVC Memorandum of Understanding.[30]

This memorandum reiterated the commission's two principal purposes as spelled out in the treaty: to resolve compliance issues and to agree upon measures for improving the effectiveness of the treaty. SVC commission membership would consist of a national representative, a deputy representative, and other advisors and experts "as necessary." Communications regarding meeting dates, agenda, and documents would be conveyed through the two Nuclear Risk Reduction Centers. SVC meetings would be held in Geneva, Switzerland, unless both parties agreed to meet elsewhere.

Once an SVC meeting had been convened, the operating rules were relatively straightforward. The senior representatives of the two nations would preside over the meeting on an alternating basis. The commission could, if appropriate, divide itself into operational working groups consisting of advisors and experts for addressing particular questions. The work of the commission was to be conducted in a confidential manner. However, documents that recorded the results of the commission would not be confidential, unless agreed to by both parties. In the brief history of the INF Treaty, the Special Verification Commission's most significant document was the Memorandum of Agreement Regarding the Implementation of the Verification Provisions of the INF Treaty.

Signed by U.S. Representative Steiner and Soviet Representative Strel'tsov on December 21, 1989, this memorandum and its six annexes contained detailed agreements between the two parties on inspection notifications; inspection equipment; logistics relating to housing, feeding, and transporting of inspectors and equipment; and a variety of other measures.[31] Procedures for conducting the continuous portal monitoring on-site inspections at Votkinsk and Magna were reviewed, refined, and codified in this new memorandum of agreement. When this SVC document was signed and published, it became one of the INF Treaty basic documents.

These documents included: the INF Treaty; the Memorandum of Understanding Establishing a Data Base; the Protocol on Eliminations; and the Protocol on Inspections. The Memorandum of Agreement Regarding the Implementation of Verification Provisions of the INF Treaty was signed on December 21, 1989. Subsequently, this MOA has been amended to incorporate additional implementation agreements.

NOTES: CHAPTER 3

[1]*Jane's Weapon Systems: 1985-1986* (Surrey: Jane's Information Group, Ltd., 1986), pp. 9-10. See also: Cochran, *Soviet Nuclear Weapons*, pp. 209-211.

[2]Jonathan Dean, "The INF Treaty Negotiations," *SIPRI Yearbook 1988*, pp. 375-394. See also: Raymond L. Garthoff, "The Soviet SS-20 Decision," *Survival* (May/June: 1983), Vol. XXV, No. 3; Jonathan Haslam, *The Soviet Union and the Politics of Nuclear Weapons in Europe, 1969-87* (Ithaca: Cornell University Press, 1990); Helmut Schmidt, *Men and Powers: A Political Retrospective* (New York: Random House, 1989); Strobe Talbot, *Deadly Gambits: The Reagan Administration and the Stalemate in Nuclear Arms Control* (New York: Vintage Books, 1985); *U.S. Fiscal Year 1981 Arms Control Impact Statements* (Washington, D.C.: U.S. Government Printing Office, 1980), pp., 250-251.

[3]Ibid. See also: Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: St. Martin's Press, 1983); Raymond Garthoff, *Detente and Confrontation: American-Soviet Relations From Nixon to Reagan* (Washington, D.C.: The Brookings Institution, 1985).

[4]*Jane's Weapons Systems: 1985-1986*, p. 44.

[5]Haslam, *Politics of Nuclear Weapons*, pp. 104-105.

[6]*Jane's Weapons Systems: 1985-1986*, pp. 42-43.

[7]*INF Treaty Memorandum of Understanding and MOU Update.*

[8]Talbot, *Deadly Gambits*, pp. 56-91. See also: Garthoff, "The Soviet SS-20 Decision," *Survival*; Dean, "Negotiations," *Yearbook*, pp. 375-394.

[9]Haslam, *Politics of Nuclear Weapons*, pp. 101-105. See also: Dean, "Negotiations," *Yearbook*, pp. 375-394.

[10]Paul Nitze, *From Hiroshima to Glasnost* (New York: Grove Weidenfeld, 1989), pp. 366-399. See also: Haslam, *Politics of Nuclear Weapons*, pp. 147-174.

[11]Strobe Talbot, "The Road to Zero," *Time*, December 14, 1987, pp. 18-30. See also: Nitze, *Hiroshima*, pp. 421-462.

[12]ACA, "Germany, US Remove Last Obstacles to INF Agreement," *Arms Control Today* (Washington, D.C.), September 1987, pp. 30-31. See also: Talbot, "Road to Zero," *Time*, pp. 18-30.

[13]For additional information, see: Barry M. Blechman and Michael Krepon, *Nuclear Risk Reduction Centers*, in the Significant Issues Series (Washington, D.C.: Center for Strategic and International Studies, 1985), Vol. 8, No. 1; Barry M. Blechman, ed., "Preventing Nuclear War: A Realistic Approach," *International Security Yearbook* (New York: St. Martin's Press, 1985).

[14]Barry M. Blechman, "A Minimal Reduction of a Major Risk," *Bulletin of the Atomic Scientists* (Chicago: The Educational Foundation for Nuclear Science, April 1988), pp. 44-46.

[15]U.S. Arms Control and Disarmament Agency, "Agreement Between the United States of America and the Union of Soviet Socialist Republics on the Establishment of the Nuclear Risk Reduction Centers," *Arms Control and Disarmament Agreements: Texts and Histories of the Negotiations* (Washington, D.C.: U.S. Government Printing Office, 1990), pp. 336-344.

[16]President Ronald Reagan, as quoted in "Remarks by the President at the Nuclear Risk Reduction Center Signing Ceremony," *Press Release* (Washington, D.C.: Office of the White House Press Secretary, September 15, 1987).

[17]U.S. Arms Control and Disarmament Agency, "Risk Reduction Centers," *Disarmament Agreements*.

[18]Stephen I. Griffiths, "The Implementation of the INF Treaty," in *SIPRI Yearbook 1990: World Armaments and Disarmaments* (Oxford: Oxford University Press, 1990), pp. 443-458. See also: R. Jeffrey Smith, "Brothers in Arms Control Off to a 'Smooth' Start," *Washington Post*, September 15, 1988, p. 16; U.S. State Department, *Fact Sheet*: "Nuclear Risk Reduction Center," September 1988; Interview with Colonel Harold Kowalski (USAF), US NRRC Staff Director, November 30, 1990.

[19]*INF Treaty*, Article XIII, Paragraph 2.

[20]*Reports of Technical Consultations*. See also: *Washington Times*, March 15, 1988, p. 5; *Washington Post*, May 13, 1988, p. A1; Schultz, *Testimony*, pp. 6-9; Arms Control Association, *Arms Control Today* (Washington, D.C.), July/August 1988, pp. 22-23.

[21]Interview, Kowalski.

[22]U.S. State Department, *Fact Sheet*: "Risk Reduction." See also: Smith, "Brothers" V. Gan, "US Nuclear Risk Reduction Center Described," *Pravda*, September 15, 1988, translated in Foreign Broadcast Information Service, *Daily Report: Soviet Union* (Washington, —hereafter, *FBIS-SOV*) (September 20, 1988), p. 6.

[23]"Risk Reduction Center Interviewed," *Krasnaya Zvezda*, August 2, 1989, trans. in *FBIS-SOV*, August 9, 1989, p. 4. The Soviet NRRC had no role in escorting U.S. inspectors at Votkinsk. That responsibility fell to the Ministry of Defense Industry.

[24]U.S. Senate Committee on Foreign Relations, *Treaty Document 100-11*, pp. 24-25. See also: Richard A. Scribner, Theodore J. Ralston, and William D. Mertz, *The Verification Challenge: Problems and Promise of Strategic Nuclear Arms Control Verification* (Boston: Birkhauser, 1985), pp. 47-66; Kosta Tsipis, David W. Hafemeister, and Penny Janeway, eds., *Arms Control Verification: The Technologies That Made It Possible* (Washington, D.C.: Pergamon-Brassey's, 1986).

[25]*INF Treaty Memorandum of Understanding*. See also: U.S. Senate, *Treaty Document 100-11*.

[26]*INF Treaty*, Article VIII, Paragraph 8.

[27]Ibid., Article XII.

[28]Ibid., Article XIII.

[29]Ibid. See also: Arms Control Disarmament Agency, "Special Verification Session Ends," *Press Release*, July 15, 1988.

[30]*Memorandum of Understanding Between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics Regarding the Procedures for the Operation of the Special Verification Commission*, December 20, 1988.

[31]*Memorandum of Agreement on the Implementation of the Verification Provisions of the INF Treaty*, December 21, 1989.

CHAPTER 4

INF BASELINE INSPECTIONS



Following an inspection of SS-23 missiles at Saryozek, USSR, Commander John C. Williams, U.S. Navy,(r) the American team leader, shakes hands with Nikolai Golovatsky, a Soviet observer.

President Reagan stood next to General Secretary Gorbachev in the Kremlin on June 1, 1988. As the two leaders exchanged the INF Treaty and the instruments of ratification, President Reagan made a brief formal statement. Setting the treaty into the context of recent Soviet-American relations, he praised the negotiators and concluded, "These are historic moments. As we exchange these documents, and the instruments

of ratification, this treaty—the terms of which we formally agreed to last December in Washington—enters into force."[1]

On that day, all parts of the INF Treaty entered into force. They included the treaty (preamble and 17 articles), Protocol on Eliminations, Protocol on Inspections, the Special Verification Commission, the requirement to communicate through the Nuclear Risk Reduction Centers, and the requirement to establish a treaty data base using the Memorandum of Understanding (MOU).[2] This memorandum became immediately the focus of attention. It was the starting point for critical treaty data on the INF missile systems (numbers and types of INF missiles and support equipment at each site, technical specifications, photographs of each type of missile and support equipment, and geographical coordinates for each site) that had to be exchanged before any inspections could be conducted.

On June 1, the United States and the Soviet Union provided a revised and updated MOU, listing deployed and nondeployed missiles, launchers, support equipment, and missile structures.[3] It described the location of these treaty items according to degrees, minutes, and seconds of longitude and latitude. It listed the mutually agreed upon technical characteristics for each missile system, including number of warheads per missile, length of first and second stages, diameter by stages, weight by missile stage, and weight by canister. Other MOU technical data described missile launchers, launch canisters, support equipment, and support structures.

Finally, the updated MOU contained corrected site diagrams, outlining the perimeter of the areas subject to on-site inspection. In this memorandum the United States certified it had 2,332 treaty-limited items, including 846 missiles and 289 launchers, located at 31 current and former INF missile sites and missile-related facilities. The Soviet Union declared it had 5,439 treaty-limited items, including 1,846 intermediate- and shorter-range INF missiles and 825 launchers, located at 130 INF missile sites.

INF Baseline Inspections Defined

The first INF Treaty on-site inspections, called baseline inspections, had to be conducted between 30 and 90 days after the treaty entered into force. Both the United States and the Soviet Union initiated baseline inspections on July 1, 1988, and completed them by August 29. Every INF missile site and missile-related facility authorized by the treaty was inspected.

The function of the baseline inspections was "to verify the numbers of missiles, launchers, support structures and equipment, and other data, as of the date of entry into force of this Treaty."[4] Physical observation by the on-site inspectors had to confirm or, if necessary, correct the data published in the MOU. According to the treaty's Protocol on Inspections, the inspecting party had the right to "inspect the entire inspection site, including the interior of structures, containers or vehicles, or including covered objects, whose dimensions are equal to or greater than the dimensions specified in Section VI (Technical Data) of the Memorandum of Understanding...." Those dimensions described the length, diameter, and weight of the missiles

and stages; as well as those of launchers and support equipment for the INF missile systems.

From an operational viewpoint, this concept of implementing the treaty with baseline inspections had several implications. First, it meant that the most intensive period of on-site inspection operations during the entire treaty would be during the first 90 days. American inspection teams had to be ready to go to two or three sites a week for eight consecutive weeks in order to inspect all 130 Soviet sites. Soviet teams would have to inspect all 31 U.S. INF missile sites and facilities during the same period. Escorting teams had to be prepared to conduct the inspection teams to each and every INF site. Transportation, specifically military airlift, had to be ready for a maximum effort in the initial 90 treaty days. Communications centers also would be operating at peak effort. Assimilating information about the on-site inspections would be particularly intense. Thus, from both an operational and a logistical point of view, the baseline inspections were critical.



The 130 Soviet INF sites included missile main operating bases, deployment areas, and launcher production facilities, missile and launcher storage facilities, repair facilities, test ranges, training sites, and elimination facilities. U.S. on-site inspectors went to all of these sites and conducted baseline inspections in July - August 1988.

Both the Soviet and American military services had committed considerable time, money, and people to preparing each and every site for a baseline inspection. The Soviets conducted mock inspections to train inspectors and escorts. At many Soviet missile sites, temporary living quarters were rehabilitated in preparation for American inspectors. At six Soviet elimination sites new facilities were constructed for the American inspection teams. At U.S. military bases in Europe and the United States, special sections of temporary housing quarters were set aside for the Soviet inspection teams.[5]

First American Inspections

On July 1, 1988, exactly 30 days after Reagan and Gorbachev had exchanged the instruments of ratification, American and Soviet inspection teams boarded aircraft and flew to designated points of entry to begin the INF Treaty's first baseline inspections. The treaty specified that each nation could have only 200 INF inspectors on an approved list at any one time. Two other lists contained the names of 200 INF portal monitoring inspectors and 200 aircrew members. These lists had to be exchanged "no later than one day after entry into force of the Treaty."[6]

The treaty further specified that each inspection team could have no more than 10 members. To carry out the U.S. baseline inspections, OSIA had selected, organized, and trained 20 inspection teams. In late June, eight of these teams flew from Washington to the agency's gateway field office in Frankfurt, while another four teams went to Yokota Air Base, the site of



The first American inspectors under the INF Treaty began their flight to the Moscow point of entry from Frankfurt, West Germany. General Lajoie, with the members of the first teams standing on the runway, speaks to the press. July 1, 1988.

the agency's gateway field office in Japan.[7] The remaining teams would be deployed later during the 60-day baseline period.

General Lajoie was a member of the first American team to conduct an INF on-site inspection in the Soviet Union.[8] Led by Lt. Colonel Lawrence G. Kelley, USMC, the team consisted of the team chief, deputy, linguists, missile operations specialists, and other specialists skilled in specific areas of operations. In the weeks leading up to the initial baseline inspections, General Lajoie remembers speaking to team chiefs, field office escort officers, linguists, noncommissioned officers, team members, and headquarters staff. "I gave a lot of briefings and I tried to establish a tone, [but]

I had trouble finding the words." He stressed that American inspectors and escorts had to be professional and businesslike. "They represented the U.S. government; I wanted them to be polite, but I wanted them to be firm and follow their plan."[9] Lajoie emphasized that the on-site inspection mission was not a clash between two conflicting world systems; rather, it was a limited, specific job, carefully defined within a single treaty.



American inspectors began their inspection by counting and examining the missiles to see if they matched the number and type specified in the NRRC notification. This inspection was of SS-23 missiles at Saryozek, USSR.

Colonel Kelley's team flew from Frankfurt to Moscow on July 1, 1988.[10] They followed the procedures outlined in the treaty's Protocol on Inspections. Sixteen hours before the team's anticipated arrival at the point of entry (Moscow), the U.S. Nuclear Risk Reduction Center in Washington sent a message to the Soviet NRRC, giving the date and time of the team's arrival, names of team members and aircrew, and the date and time when the team chief would specify which INF site would be inspected. Colonel Kelley's team arrived at Moscow's Sheremetyevo International Airport on the morning of July 1.

They were met by a Soviet INF Treaty escort team. Also present at the team's arrival were OSIA officials attached to the American embassy in Moscow. Their function was to serve as a diplomatic aircrew escort. For the inspection team, the treaty's inspection protocol stipulated that the movement of inspectors and aircrews "shall be at the discretion" of the in-country escorts.[11] This meant that Kelley's team and all subsequent American inspection teams would be escorted continuously while they were in the Soviet Union. Passage through customs, transportation, hotel accommodations, meals, and the on-site inspection itself would be done under Soviet escort.

The process began at the airport, where Colonel Kelley and the team were met by Colonel Ivan Y. Abrosimov, the Soviet escort leader, and his team members. Representing the agency in Moscow were Lt. Colonel Ken Keating, U.S. Army, Eileen Malloy, U.S. State Department, and Sergeant First Class John Steinmetz, U S. Army. They met the American inspection team at the airport, and along with the Soviet escort team, they accompanied the aircrew to customs, and then to their overnight accommodations in Moscow. After a treaty-specified four-hour minimum period, Kelley declared the American inspection team's intention to inspect the Soviet SS-20 missile operating base at Rechitsa in Byelorussia. From the time of that declaration, the Soviet Union had nine hours to get the U.S. inspection team to the site.

The Soviets met the treaty deadline. The U.S. inspectors and their Soviet escorts flew from Moscow to Byelorussia and then were taken by bus to the SS-20 missile base. When Kelley's team arrived at the site, they proceeded immediately to a pre-inspection briefing by the Soviet missile site commander. Required by the treaty, this briefing ran approximately an hour and included a presentation of a site diagram describing the location of the missiles, stages, launchers, support equipment, and support structures. The diagram also included data on the exact number of treaty items. At this time, the American inspectors were provided with information on safety and potential hazards at the site. Following this briefing, Kelley and his team commenced their baseline inspection at 0001 hours GMT (0401 local), July 2. They made a thorough inspection of the entire site, escorted throughout by Soviet INF officials knowledgeable about the treaty. The inspecting party had the treaty right of conducting a 24-hour inspection;



During the baseline inspection period (July - August 1988), Colonel Kelley and his team conducted many inspections. Here the American inspectors together with their Soviet escorts assembled in front of a T-34 tank at Vyru, an SS-4 missile operating base in Estonia.

however, approximately eight hours after the inspection began, Kelley declared it completed. Assisted by the linguists and other inspectors, Colonel Kelley prepared the treaty inspection report in English and Russian.[12]

According to the INF Treaty's Protocol on Inspections (Article 11, Paragraph 1), the inspection report had to be "factual" and had to record the type of inspection, name of the inspection site, number of missiles, stages of missiles, and the number of launchers and support equipment at the site. Essentially, the inspection report certified what treaty-limited items had been observed and counted during the inspection. At a brief concluding ceremony held at the missile site, Kelley and Abrosimov signed two copies of the inspection report, one for each party. Following this ceremony, the American inspection and Soviet escort teams departed promptly, returning to Moscow the same day. From Moscow, the American team returned to Frankfurt, where preparations were undertaken for conducting another baseline inspection mission in a few days. General Lajoie left the team, returning to Washington for a series of briefings and press conferences on the treaty and the on-site inspections. Colonel Kelley and the other team members remained in Frankfurt.



During baseline, the first SS-20 elimination took place at Kapustin Yar. Here, a group of Soviet escorts and a single American inspector, General Lajoie, (fifth from left) paused for a photograph in front of a SS-20 missile canister.

Throughout the summer of 1988 all of the American INF teams conducting baseline inspections followed similar procedures and processes, although inspecting some of the larger Soviet sites required considerably more of the 24-hour time period. By July 5, 10 American teams had deployed and were carrying out baseline inspections of Soviet INF sites. These teams flew from Frankfurt to Moscow or from Yokota Air Base to Ulan-Ude. By July 10, the initial teams had returned, received new briefings and redeployed to the USSR. By July 22, another 14 baseline inspections were under way. During this intense period continuous portal monitoring

inspections were begun, along with two other types of INF inspections: eliminations and closeouts.

The first Soviet INF missile eliminations began on July 22 at Kapustin Yar. An American inspection team monitored this elimination, as they did all subsequent scheduled eliminations. The treaty also granted the inspecting party the right to conduct closeout inspections of INF missile bases and facilities that had been declared to no longer have any INF missile systems or INF related activities. During the eight-week baseline period, American inspection teams conducted 16 closeout inspections.* By the end of July 1988, four of the five types of on-site inspections were under way: baseline, continuous portal monitoring, elimination, and closeout. In July and August, there were so many U.S. inspections of Soviet INF sites that the U.S. Air Force had flights into and out of Moscow every day and flights every other day to and from Ulan-Ude. It was an intense, exciting time; it set the tone for all subsequent treaty on-site inspections.

In the summer of 1988, the international media contributed to the excitement. In the United States, Soviet Union, and Europe, journalists and television reporters focused on the INF Treaty and the men and women involved in the new on-site inspections. They interviewed team chiefs, inspectors, and senior escorts at the airports, in the cities, and, on occasion, at the sites. Colonel Kelley, for instance, was approached by a *TASS* reporter and asked about his experience in leading the first American on-site inspection. Speaking in fluent Russian, Kelley remarked, "It is clear to us that the Soviet side is interested in facilitating our inspections. Excellent conditions were created for our work and we are quite satisfied."[13] This interview was conducted on July 7 at Moscow's Sheremetyevo Airport.



During the baseline inspection period (July - August 1988), the media observed the first eliminations of missiles. On August 1, 1988, dozens of Soviet and international media were at the Saryozek Elimination Facility where they were briefed by a Soviet officer on the SS-12 missile elimination process.

* The treaty stipulated that during the baseline period, that baseline inspections would constitute closeout inspections.

Kelley's team had just arrived from Frankfurt for another inspection. Reflecting on the first inspection a week earlier, he said, "Your officers have produced a positive impression on me—they are capable commanding officers who have good knowledge of the provisions of the treaty. They are also very hospitable."[14]

During the 60-day baseline period, the pace of inspecting and escorting was brisk, intense, and continuous. Twenty American on-site inspection teams had been organized and trained; these teams conducted the INF inspections in the Soviet Union, East Germany, and Czechoslovakia. The following U.S. military officers served as team chiefs:

U.S. INF On-Site Inspection Team Leaders

July 1-August 29, 1988

Lt. Colonel Thomas S. Brock	U.S. Army
Colonel Edward H. Cabaniss	U.S. Army
Lt. Colonel Terry C. Corneil	U.S. Army
Colonel Andrew F. Gothreau	U.S. Army
Lt. Colonel Douglas C. Guiler	U.S. Army
Lt. Colonel Michael J. Hritsik	U.S. Air Force
Lt. Colonel Lawrence G. Kelley	U.S. Marine Corps
Lt. Colonel Lyman B. Kirkpatrick	U.S. Army
Lt. Colonel John R. Lohmann	U.S. Army
Colonel Robert B. McConnell	U.S. Air Force
Lt. Colonel Paul H. Nelson	U.S. Army
Captain David E. Olson	U.S. Navy
Colonel Arthur J. Parr	U.S. Army
Colonel Carl W. Reddel	U.S. Air Force
Lt. Colonel Kenneth A. Rogers	U.S. Air Force
Major Bruce D. Slawter	U.S. Air Force
Lt. Colonel Nicholas Troyan	U.S. Army
Commander John C. Williams	U.S. Navy
Colonel Nils L. Wurzburger	U.S. Air Force
Lt. Colonel Thomas G. Wyckoff	U.S. Army

Soviet Baseline Inspections

At 7 P.M. on July 1, 1988, a Soviet IL-62 Aeroflot jet arrived at Travis Air Force Base, California, with 72 Soviet on-site inspectors and 10 aircrew members on board.[15] Colonel Vyacheslav Lebedev, the senior Soviet inspector, spoke with American reporters: "The Treaty creates a relatively new atmosphere of trust between our two nations."[16] Colonel Thomas E. Smalls, U.S. Army, head of OSIA's San Francisco field office, led the American escort teams that met and accompanied the Soviet inspectors throughout these initial baseline inspections. Also on hand to meet the

Soviet inspectors was Boris Vasev, an official from the Soviet consulate general in San Francisco.

The 72 Soviets included a 22-person inspection team that would be establishing the Soviet Union's continuous portal monitoring inspection activity at Magna, Utah, site of the Hercules Plant No. 1.[17] The other 50 Soviet inspectors were divided into five 10-man inspection teams. They would conduct baseline inspections of U.S. INF missile sites and facilities in the western United States.

For their initial baseline inspections, the Soviets selected a former INF launcher production facility, two INF training sites, a missile storage depot, and a testing ground. They inspected Air Force Plant 19 in San Diego; a training site at Davis-Monthan Air Force Base in Arizona; another at Fort Huachuca, Arizona; a missile storage depot at Dugway Proving Ground, Utah; and the testing ground at Pueblo Army Depot in Colorado.[18] The Soviets followed the notification procedures and timelines outlined in the treaty. At the conclusion of each inspection, the Soviet team chief prepared the required report. Signed by the senior Soviet inspector and American escort, the factual treaty report detailed the results of the inspection. Two copies were made; each team retained a copy for the record. Twenty-four hours after the inspections began, the five Soviet inspection teams had returned to Travis Air Force Base and were preparing to depart for the Soviet Union.[19] On July 4,1988, Soviet inspectors made their first baseline inspections in Europe, at a ground-launched cruise missile site at Wueschheim, West Germany, and a Pershing II missile installation at Schwaebisch Gmuend, West Germany.[20]



On July 1, 1988, the first day of the baseline inspections, 72 Soviet inspectors (6 teams) arrived at Travis Air Force Base, California. This base was the western point of entry for all Soviet INF inspectors entering the United States. All inspection team members wore civilian clothes and distinctive badges upon arrival.

General Major Vladimir I. Medvedev was chief of the USSR's Nuclear Risk Reduction Center, the Soviet Union's INF on-site inspection agency. A senior officer with experience on the Soviet General Staff, General Medvedev had been actively involved in treaty negotiations, working with the Soviet group in Geneva that prepared the final treaty documents. When General Medvedev was interviewed by *Krasnaya Zvezda*, the Soviet Ministry of Defense newspaper, he described the type of person selected as a Soviet INF inspector and what the job entailed:

"First and foremost they are highly skilled specialists, mainly missilemen, with long service and life experiences.... They are mainly senior officers. But there are young people too—translators.... And the average age of the center's personnel is a little over 40.... He [the Soviet INF inspector/escort] strictly abides by the provisions of the treaty and the protocol on inspections—they lay down the rights, duties, and procedures. The inspector arrives at the point of entry into the country...where he is met by the U.S. officials who will accompany him. The inspector can stay, as a rule, no more than 24 hours. During that time he has to announce the site of the inspection—it is not announced in advance. Then the hosts have no more than 9 hours to get him to the requisite site. The inspection lasts for up to 24 hours. The inspector checks whether the facility has the number of weapons it is supposed to have and makes a report. It is unusual work, and there is a great deal of interest in it."[21]



Leaders of the Soviet Union's inspectorate, Colonel Shabalin and General Medvedev.

On the last day of July 1988, General Lajoie was in Ulan-Ude with two American inspection teams. Ulan-Ude, 3,430 miles east of Moscow, was the point of entry for American teams arriving in the eastern Soviet Union. Lajoie had been a member of the first American inspection team in the Soviet Union on July 1, 1988. Now, nearly a month later, he was in this eastern Siberian city enroute to another inspection. At the airport, he discussed the status of the INF treaty with Soviet reporters: "All the initial inspections have gone very well. On our side, we have completed about 50 inspections of Soviet bases in the USSR, the GDR [East Germany] and the CSSR [Czechoslovakia]. Your inspectors have not been wasting time either. They have carried out 13 inspections in the United States and at U.S. bases in Western Europe." Lajoie complimented the Soviets on their organization and reception of U.S. inspection teams.[22]

Two weeks later, on August 18, Colonel Shabalin, deputy director of the NRRC center, spoke with *TASS* reporters about the reciprocal nature of the INF inspections. Shabalin said that the American inspection teams had conducted 108 on-site inspections of Soviet INF sites in the first six weeks. Soviet teams, he continued, had checked 26 of the 31 INF sites in Western Europe and the United States. In addition, by mid-August, he stated, the United States had four teams of on-site inspectors observing INF missile eliminations—in Saryozek,Stan'kovo,Sarny, and Lesnaya—and one group of resident inspectors conducting portal monitoring inspections in Votkinsk. This unprecedented, intense activity had produced, he believed, good working relations. Looking to the future, Colonel Shabalin concluded, "The acquired experience of the [INF] inspections proved their high effectiveness as a means of control. It could be used in the future for control over strategic offensive armaments."[23]

Escorting the Soviet inspectors were teams of American officers, noncommissioned officers, and civilian officials. In the spring of 1988, OSIA selected and trained escort teams. They participated in the mock training exercises in April and May. Led by senior military officers, the teams were assigned to one of the field offices—San Francisco, Washington, or Frankfurt.[24] Each team consisted of a team chief, deputy, linguists, missile specialists, and other specialists. During the period of the INF baseline inspections, the following officers served as U.S. INF escort team chiefs:

U.S. INF On-Site Escort Team Leaders

July 1-August 29, 1988

Lt. Colonel Stephen B. Boyd	**U.S. Air Force**
Colonel John Fer	**U.S. Air Force**
Colonel Ronald P. Forest	**U.S. Army**
Captain Albert G. Graham	**U.S. Navy**
Lt. Colonel James E. Kealey	**U.S. Army**
Lt. Colonel Scott G. Lang	**U.S. Army**
Colonel Thomas E. Smalls	**U.S. Army**
Colonel Gerald V. West	**U.S. Air Force**
Lt. Colonel Claesen D. Wyckoff	**U.S. Army**
Lt. Colonel Robert Yablonski	**U.S. Air Force**

The 60-Day Record



An American escort officer assists a Soviet inspector in a measurement at RAF Molesworth, Great Britian.

For 60 days American and Soviet teams conducted baseline inspections, setting precedents, and establishing a tone for future inspections. The record is impressive. U.S. teams went to 79 Soviet INF missile operating bases, 19 missile and launcher storage facilities, 6 training facilities, 2 test ranges, 12 repair facilities, 3 production facilities, and 8 elimination facilities in those 60 days. They conducted 114 inspections covering 129 Soviet INF sites in the Soviet Union, East Germany, and Czechoslovakia. There was no baseline inspection at Votkinsk. At Votkinsk,U.S. portal monitoring inspectors took up their posts during the baseline period; in July they began continuous portal monitoring of the Soviet missile final assembly plant. Soviet on-site inspectors went to 21 U.S. missile sites and missile-related facilities and conducted 31 baseline inspections.[25] The Soviet inspectors established their portal monitoring team at Magna, Utah, in early July. During the baseline period, American and Soviet on-site inspectors observed and recorded a total of 7,681 treaty-limited items listed in the official Memorandum of Understanding.

Another part of the record established during the baseline period was the verification of the technical data in the MOU. These data established the standard length, diameter, height, and weight for INF missiles, launchers, and associated equipment. It was important data; both inspecting and inspected parties needed to have standard technical references for the missile systems to distinguish treaty items from nontreaty items and noninspectable storage areas.

AN AMERICAN MILITARY LINGUIST

Lieutenant Tamara Suwalow McKenna, U.S. Coast Guard, was an American military linguist during the first two years of the INF Treaty. Educated at the U.S.Coast Guard Academy and holding an advanced degree from George Mason University, Lt. McKenna served as a linguist on American inspection teams conducting on-site inspections in the Soviet Union. In two years she participated in 34 inspections.



Lt.Tamara Suwalow McKenna U.S. Coast Guard, receives a promotion from General Lajoie.

On the initial inspections: *"I was very apprehensive, even though I had participated in two mock inspections in the United States, I knew it would be much different in the Soviet Union. I thought that the translating would be very difficult. I was very worried there would be times that I didn't know the terminology ... I didn't feel very confident. Our team was the third team to go into the Soviet Union (July 1988). We really didn't know what had happened with the first two teams that had gone in. We went to an INF training facility, to Serpukhov, which was just outside of Moscow."*

"I thought they treated us very well. I was expecting it to be much more formal. I was really surprised at the way the Soviets went out of their way to show us everything and to satisfy us that they were complying with the treaty. They were definitely prepared and everyone knew an important event was taking place. They wanted to make sure that things went well, especially in the beginning they paid attention to the small details, and made sure that no mistakes occurred."

On linguistic preparations*: "It turned out to be adequate. It turned out that there weren't quite as many technological terms as I thought there would be. Our relations with the Soviet interpreters were very good."*

On the pace of the initial inspections: *"There was a time when everyone would get tired. In the beginning there was a lot of adrenaline, and even if you did have a long day, it might not affect you that much. But towards the end of baseline, teams would get tired. Because people might be away from home for two or three months, it could be very difficult. "*

On the difficult aspects of inspections: *"[There were several]... a large area, bad weather, many things to look at, difficult travel to the site. You knew you would always be waiting. The inspectors became very patient people. You just had to learn how to sit in an airport and read or do something, knowing that eventually you'll leave, but also knowing that you really had no control of when you would go. It was tiring travelling on the busses. The weather was very hot [July 1988], it was very dusty."*

On being an American woman in the Soviet Union: *"First, let me say something about the Soviet women. I was amazed at how poorly they were treated., They have very difficult lives. They do all of the hard work. They work on the railroads and the little old ladies sweep the streets. I remember during the first inspection, my Soviet escorts asked me, 'Why are you doing this? This is a man's job, it's not a job for women.' They were just saying, women weren't meant for military work. Soviet women have some of the hardest jobs, and yet these Soviet men were telling me that women were fragile flowers that shouldn't do difficult work."*

On Soviet attitudes towards destroying modern weapons: *"We discussed it with them. A lot of them said, well this is the way it has to be because of the treaty, and it's for the good of man. Others were sad. It was equipment that they were taking care of for such a long time, and after being so painstakingly careful, they had to destroy it. From my perspective, they were very professional . We talked about the INF Treaty. I never felt that any of the Soviet soldiers or officers thought that the treaty was a bad decision. They all supported it; they thought it would bring about peace."*

Source: Interview, September 11, 1990

To verify the technical data, one American and one Soviet team went to the elimination sites and took measurements of the INF missiles and systems. Their measurements were independent of the treaty's Memorandum of Understanding technical data. During the technical talks that were held in the spring of 1988, the issue arose; it was resolved during the meeting between George Shultz and Eduard Shevardnadze in Geneva on May 11-12, 1988. Subsequently a joint statement, called an agreed minute, became part of the treaty itself, and it authorized one American and one Soviet inspection team to travel to the designated elimination sites and verify for each INF missile system the technical characteristics listed in the official MOU.[26]

Another part of the diplomatic note specified which stages and equipment of the U.S. and Soviet missile systems would be used officially as the smallest inspectable treaty items. The dimensions of these items, which were critical to all on-site inspections, were published in the June 1, 1988, Memorandum of Understanding Data Update.[27]



This American inspection team at Saryozek, USSR, examined these SS-12 missiles. In conducting their inspection, the inspectors used the standard measurements recorded by Commander John C. Williams and his team.

For the United States, U.S. Navy Commander John C. Williams led a team of INF specialists to six Soviet elimination sites—Sarny, Stan'kovo, Lesnaya, Kapustin Yar, Saryozek, and Jelgava—where they selected randomly from each Soviet INF missile group one missile, one launcher, and one item of associated equipment to measure. During these special inspections, they measured the length, width, height, and weight of the SS-20, SS-4, SS-5, SSC-X-4, SS-12, and SS-23 missiles. For the same missile systems they also measured the dimensions of the missile launchers, canisters, missile transporter vehicles, missile erectors, propellant tanks, and designated support structures. These measurements became the standard for all American INF inspection teams. During the same period, the Soviet Union's technical data inspection team took measurements of the Pershing II, Pershing IA and IB, and BGM-109G missiles, launchers, associated equipment, and structures. These measurements became the standard for all Soviet INF inspections.

Critical Logistical Infrastructure

To complete the INF Treaty baseline inspection record that far exceeded in number and scope the on-site inspections used to monitor any other recent arms control treaty or agreement, the U.S. government relied on the Air Force to transport American and Soviet inspection and escort teams. The Military Airlift Command (MAC) used dedicated aircraft to fly American inspection teams to the treaty-designated points of entry in the Soviet Union, East Germany, and Czechoslovakia. The Air Force also transported Soviet inspectors and American escort teams from points of entry in the United States and Europe to declared INF missile operating bases and facilities.[28]

The flights to and from the Soviet Union were the most frequent and challenging. Because of the short time period for completing the baseline inspections (60 days), the number of Soviet sites (130), and a simultaneous requirement to establish a U.S. portal inspection team in Votkinsk, the Air Force flew transport flights almost daily to and from the Soviet Union. Beginning on July 1, 1988, there were 54 missions in 60 days from Frankfurt to Moscow and 31 missions from Yokota to Ulan-Ude. The Air Force also flew Soviet inspection teams and their American escorts to INF bases and missile sites in the United States and Europe. At OSIA headquarters, Lt. Colonel Gerald Heuer, USAF, and Master Sergeant Wilbur Lewis, Jr., USAF, provided the expertise to initiate, coordinate, and track these military flights. At the culmination of the baseline inspections, the Military Airlift Command had flown 185 INF teams on 114 baseline inspection missions, with a reliability rate of 98.1 percent. This rate meant that only five flights could not be flown as scheduled. The United States met all of its treaty obligations to transport Soviet teams within mandated timeframes. The performance record also established precedents for future arms control treaties.[29]



In Washington, a Soviet team departs for an inspection at Fort Sill, Oklahoma.

Another important precedent set during the INF baseline period was the establishment of small offices in U.S. and Soviet embassies to assist INF inspection teams and aircrews. In the U.S. embassy in Moscow, the office was called the Arms Control Implementation Unit (ACIU).[30] This unit supported three arms control treaties and agreements: the 1986 Stockholm CDE Agreement, the 1987 INF Treaty, and the 1988 U.S./USSR Joint Verification Experiments on Underground Nuclear Explosions. For implementation of these agreements, treaties, and technical experiments, this new embassy office served as the point of contact with the Soviet Ministry of Foreign Affairs, the Nuclear Risk Reduction Center and other Soviet government agencies.

Under the INF Treaty the office had another significant function. The treaty's Protocol on Inspections stipulated that the inspectors "shall have the right through the period of inspection to be in communication with the embassy of the inspecting party...."[31] During the technical talks, this treaty provision was determined to mean communicating by telephone. When the baseline inspections were underway in July and August 1988, several U.S. inspection teams were in the Soviet Union simultaneously. Each had the right to communicate by telephone with the U.S. embassy. Other provisions in the treaty's Protocol on Inspections permitted embassy officials to meet and assist INF aircrews and inspection teams upon their arrival at the point of entry. This assistance was especially important during and after baseline to provide logistical support to the American and Soviet portal monitoring teams establishing operations in Votkinsk and Magna.

In June 1988, the U.S. State Department activated the ACIU in the U.S. embassy in Moscow and a subunit in Ulan-Ude. In Moscow, the ACIU staff consisted of Lt. Colonel Ken Keating, U.S. Army; Eileen A. Malloy,



In Moscow, an American team departs for Frankfurt, West Germany.

State Department; Major Stephen E. Freeman, U.S. Army; and Sergeant First Class John M. Steinmetz, U.S. Army. In Ulan-Ude, Captain James Connell, U.S. Navy Reserve, and later John Floyd, U.S. Navy, and his wife, Jane, U.S. State Department, established a small office and residence in a city hotel and assisted American INF teams inspecting in that sector.[32] The Soviet Ministry of Foreign Affairs established similar arms control implementation units for Soviet INF inspectors in the Soviet embassy in Washington and the consulate general in San Francisco.

A third aspect of this critical logistical infrastructure was the people who were deployed from OSIA headquarters in Washington to work at the agency's gateway field offices in Frankfurt and Yokota. In the final week of June 1988, Lt. Colonel Jerome E. Johnson, USAF, went from Washington to Rhein Main Air Base, Frankfurt. Working with Colonel John Fer, USAF; Lt. Colonel Scott G. Lang, U.S. Army; and the staff of the European field office over the next two months, he assisted arriving and departing American inspection teams that carried out all of the INF baseline inspections in the Soviet Union, East Germany, and Czechoslovakia. At Yokota, Captain Michael W. Slifka, USAF, helped the American teams deploying to conduct baseline inspections in the eastern Soviet Union. Thirty-six teams went from Yokota to Ulan-Ude in July and August. In fact, during baseline so many agency people participated directly as inspectors, escorts, or as operational and logistical staff that headquarters was nearly empty. At times, fewer than 15 of the 120 people assigned to OSIA were in Washington. It was, without question, the busiest phase of the INF Treaty.



Soviet Major Igor Kirichenko and American Lt. Colonel Vitali Mostovoj at Saryozek, USSR.

Evaluation

The record of the first 90 days of the INF treaty was extensively evaluated. Public interest was at a peak as Soviet, American, and European television and print media covered the treaty and the initial on-site inspections. The news bureaus of the major television networks—ABC, NBC, CBS, CNN, PBS, the BBC, and Soviet television—ran feature stories on the INF Treaty during the Moscow Summit of June 1988 and the first baseline inspections in July 1988. National, local, and foreign press—including the *New York Times, Washington Post, Washington Times, Christian Science Monitor, Los Angeles Times, London Times, Pravda, Time, Newsweek,* and the world press—reported on the treaty and the initial inspections. For nearly six weeks—from early June to mid-July—the international media fixed their attention on the INF Treaty and the first groups of Soviet and American inspectors and escorts. Their evaluations, which formed an important part of the public's perception, focused to a large degree on the historical precedents of the treaty and the role of the on-site inspectors who were examining treaty missiles and equipment scheduled for destruction.[33]

Three weeks after the baseline phase ended on August 30, General Lajoie discussed these precedent-setting inspections in a lengthy interview. He explained the inspection process, related some of the American inspectors' experiences, and summarized his thoughts up to that point:

On-site inspection has limits; we can go to specific sites in search of specific information and return with more confidence than before concerning compliance at that particular site. But it's not an anytime/anywhere regime, certainly not for INF.... On-site inspection under the INF Treaty has given the U.S. government increased confidence. We now have more knowledge about Soviet forces, and with that knowledge comes perhaps a somewhat better understanding and maybe eventually more predictability in our relationship. It's still early in the game, but I think on-site inspection has a very positive role to play in arms control.[34]



At the conclusion of every INF Treaty on-site inspection, the respective team leaders, in this case Colonel Gerald V. West, senior escort, and Colonel Vladimir A. Akimenkov, co-signed the official inspection report. This report detailed the time, place, treaty article and paragraph, inspection activity, and any comments concerning the inspection.

NOTES: CHAPTER 4

[1]President Ronald Reagan, "Remarks Made at the Exchange of Ratification Instruments for the INF Treaty," *Weekly Compilation of Presidential Documents* (Washington, D.C.: Office of the Federal Register, June 6, 1988), Vol, 24, pp. 715-717.

[2]*INF Treaty*, *Protocol on Eliminations*, *Protocol on Inspections*, and *Memorandum of Understanding*, June 1, 1988.

[3]*INF Treaty Memorandum of Understanding Data Update*, June 1, 1988.

[4]*INF Treaty*, Article 11, Paragraph 3.

[5]Interview with Lajoie, "Insights," *Arms Control Today*, pp. 4-6. See also: Briefing by Brigadier General Lajoie in *Defense Issues* (July 1988), Vol. 3, No. 39, pp. 1-6.

[6]*INF Treaty Protocol on Inspections*, Article 3, Paragraph 2.

[7]For additional information, see: *Reuters*, July 1, 1988; *Associated Press*, July 1, 1988.

[8]Ibid.

[9]Interview, Lajoie.

[10]Lajoie in *Defense Issues*, p. 6. See also: U.S. House of Representatives, Foreign Affairs Subcommittee on Arms Control, International Security and Science, "Statement by Brigadier General Roland Lajoie," March 2, 1989, in *Hearings and Markup, HR 1495* (Washington, D.C.: U.S. Government Printing Office, 1989), p. 45.

[11]*INF Treaty Protocol on Inspections*, Article 6, Paragraph 5.

[12]Lajoie in *Defense Issues*, pp. 5-9. See also: Interview with Lajoie, "Insights," *Arms Control Today; INF Treaty Protocol on Inspections*.

[13]Gennadiy Talalayev, "US INF Inspection Team Arrives in Moscow," *TASS*, July 7, 1988, trans. in *FBIS-SOV*, July 8, 1988.

[14]Ibid.

[15]*Los Angeles Times*, July 2, 1988. See also: *Oakland Tribune*, July 2 and 3, 1988; *San Diego Union*, July 4, 1988; Theresa M. Foley, "US, Soviet Missile Experts Begin INF Treaty Inspections," *Aviation Week & Space Technology*, (New York: McGraw-Hill, July 11, 1988), pp. 25-26; Lajoie in *Defense Issues*, pp. 2-3.

[16]Colonel Vyacheslav Lebedev as quoted by Kevin Drew in *Fairchild Daily Republic*, July 2, 1988.

[17]*Washington Post*, July 2, 1988. See also: *Los Angeles Times*, July 2, 1988; *Washington Times*, July 5, 1988.

[18]Lajoie in *Defense Issues*, pp. 2-7.

[19]*Washington Times*, July 5, 1988, p. 3. See also: Bob Minzesheimer and Lance Gurwell, "In Utah, Soviet Inspectors March on Different Mission," *USA Today*, July 5, 1988, p. 7A; *Washington Post*, July 5, 1988.

[20]Ibid. See also: "Sowjetische INF-Inspektionen in der Bundesrepublik Beendet," *Frankfurter Allgemeine Zeitung*, July 8, 1988, trans. by OSIA; Lajoie in *Defense Issues*.

[21]*Krasnaya Zvezda*, August 2, 1989, p. 2, trans. in *FBIS-SOV*, August 9, 1989, p. 4.

[22]*Moscow Domestic Service*, July 27, 1988, trans. in *FBIS-SOV*, July 28, 1988, p. 1.

[23]*Vremya* (Moscow), August 16, 1988, trans. in *FBIS-SOV*, August 17, 1988, p. 1.

[24]U.S. House of Representatives, Foreign Affairs Subcommittee on Arms Control, International Security and Science, "Statement by Brigadier General Roland Lajoie."

[25]*INF Treaty Memorandum of Understanding Data Update*. See also: Interview with Lajoie, "Insights," in *Arms Control Today*, pp. 3-10.

[26]*INF Treaty Diplomatic Minute*, May 12, 1988, pp. 1-6. See also: Schultz, *Testimony*, pp. 6-9; *NBC News*, May 10, 1988; *New York Times*, May 12, 1988; *Washington Post*, May 13, 1988.

[27]Ibid.

[28]Foley, "US, Soviet Missile Experts," p. 25. See also: Brigadier General Roland Lajoie, "Statement Before the House of Representatives Defense Appropriations Subcommittee," April 18, 1990, pp. 1-3.

[29]Kennedy, *Supporting the INF Treaty*, pp. 29-41.

[30]Lajoie, "Defense Appropriations," pp. 1-4.

[31]*INF Treaty Protocol on Inspections*, Article 6, Paragraph 7.

[32]"Americans in Siberia," *Izvestiya*, August 26, 1988, p. 1, trans. by OSIA. See also: "Americans Live in Ulan Ude," *Youth of Buryatia*, October 7, 1988, p. 13 (Panorama Section), trans. by OSIA.

[33]Smith, "Brothers in Arms Control." See also: Peter Grier, "Hunting for Hidden Missiles," *Christian Science Monitor*, July 6, 1988, p. A3; *Washington Times*, July 4, 1988; John Fialka, "Russian Outhouse Marked for Women Sign of New Era," *Wall Street Journal*, July 18, 1988; Andrew Morgan, "Russians Land at Greenham," *Times* (London), July 20, 1988; David Fairhall, "Soviet Team Flies Into Greenham," *Manchester Guardian*, July 20, 1988; *International Herald Tribune*, July 20, 1988.

[34]Lajoie in "Insights," *Arms Control Today*, p. 10.

CHAPTER 5

INF CONTINUOUS PORTAL MONITORING INSPECTIONS



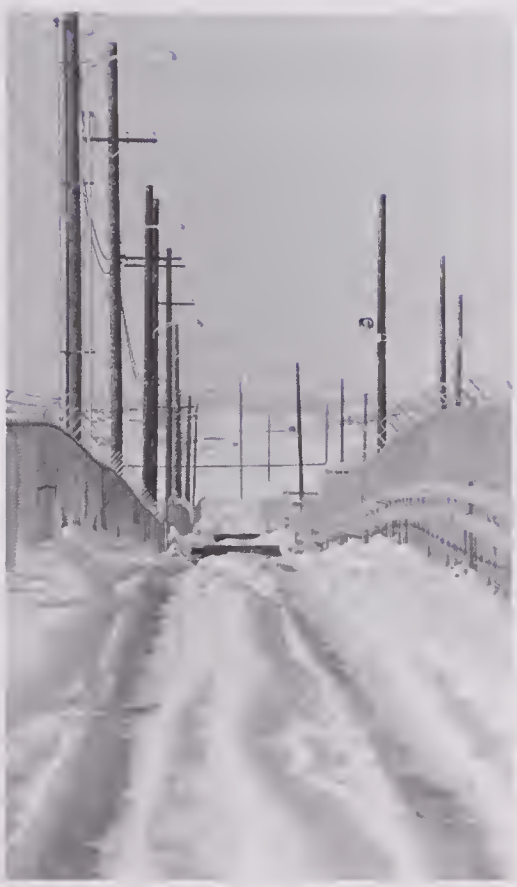
The United States continuous portal monitoring inspections were conducted at the Votkinsk Machine Building Plant, located in the Udmurt, USSR. Here Inspector Anne Mortensen operates the inspection monitoring system from the Data Collection Center.

Thirty days after the INF Treaty went into effect on June 1, 1988, the United States and the Soviet Union had the right to station up to 30 resident on-site inspectors at one former INF missile final assembly plant or INF missile production facility. Both nations did so. The United States sent its inspectors to monitor a former INF missile final assembly plant at Votkinsk, USSR, and the Soviet Union directed its inspectors to observe a former INF rocket motor production plant at Magna, Utah.

On July 2, Colonel Douglas M. Englund, U.S. Army, led the first team of 24 American inspectors to Votkinsk. On the same day, Colonel Anatoly Y. Samarin arrived in Magna with 21 Soviet inspectors. These inspectors had the right to monitor continuously—24 hours a day, 365 days a year, for up to 13 years—the missile plant's portals and to patrol the perimeter. The plant itself could not be entered.[1]

This type of on-site inspection had a special place and purpose in the operation of the INF Treaty. Article 6 stipulated that "upon entry into force" neither party shall "produce" any banned intermediate-range or shorter-range missile, missile stage, or launcher.[2] To verify one aspect of this prohibition, each party had the right to station up to 30 on-site inspectors at the portals, and perimeter of a designated former INF final missile assembly or production plant. During treaty negotiations, the Soviets declared that they intended to continue producing some non-INF missiles that were "outwardly similar, but not interchangeable" with the SS-20 missiles included in the INF Treaty. These non-INF missiles, specifically the SS-25 missiles, were being assembled at Votkinsk. Soviet negotiators designated Votkinsk as the final inspection assembly plant subject to portal monitoring inspections.

When the INF Treaty entered into force in June 1988, Votkinsk was a closed city of 100,000 people located in the Ural Mountains, approximately 1,000 kilometers northeast of Moscow. Three INF missiles had been assembled there: SS-12s, SS-20s, and SS-23s. The Votkinsk plant still assembled some of the Soviet Union's most modern ballistic missiles, specifically the SS-25 missile.[3]



Perimeter road around the continuous monitoring inspection area at Magna.

Encased in large missile canisters, SS-25 missiles were shipped from the plant in special railroad cars to operational military units. The SS-25 was not banned under the INF Treaty. However, the missile's first stage was physically similar to the SS-20 first stage; its missile canister was similar in size and weight; and its railcar exiting the assembly plant was similar to those used to transport SS-20s. The major difference in the two missiles was that the SS-20 was a two-stage missile in which the second stage was 2.87 meters long, while the SS-25 was a three-stage missile, with a second stage 3.07-meter-long.[4] Given these similarities and differences, treaty negotiators had to agree upon an inspection process that would allow U.S. inspectors to be sure that no SS-20 missiles or missile stages were leaving the plant.

In Geneva Soviet negotiators proposed that U.S. on-site inspectors at Votkinsk would have the right to operate certain approved sensors and nondamaging imaging devices. These devices would weigh, measure, and image rail cars leaving the plant that were large enough and heavy enough to hold a missile container with an INF missile inside. Using these imaging devices, on-site inspectors could scan the railcars and determine the length and diameter of the missile inside its canister.[5]

After extensive negotiations this continuous portal monitoring inspection right was written into the treaty. In addition, treaty negotiators agreed that eight times per treaty year U.S. inspectors at Votkinsk had the right to visually inspect a missile inside its launch canister to make sure it was not a banned INF missile. The purpose of this intrusive on-site inspection right



At Votkinsk, the U.S. compound contained a shelter for missile rail cars that had exited the Soviet plant and were awaiting connection to the U.S. Radiographic Imaging System. This rail car will be attached to a cable and be pulled through the system.

was to allay U.S. concerns that an SS-20 missile might be placed inside an SS-25 missile canister. By allowing the inspecting party to randomly select and inspect a missile, with the canister cap opened, eight times a year, treaty negotiators erected a deterrent to cheating. Visual inspection of the open missile canister inside the railcar would allow the American inspector to determine if the missile was an SS-20 missile or not.[6]

For reasons of reciprocity, the United States designated Hercules Plant Number 1, at Magna, Utah subject to INF Treaty continuous portal monitoring inspections. The treaty stipulated that if a party did not assemble a missile with a stage that was "outwardly similiar" to a treaty-limited missile, then the inspecting party would have the right to carry out portal monitoring inspections at one "agreed" former missile production facility where INF missiles had been produced.[7] Rocket motors for the Pershing II missiles had been produced at Hercules Plant No. 1 from 1982 to 1987. Reciprocal treaty rights allowed Soviet portal monitoring inspectors the right to stop, measure, and weigh all vehicles that exceeded certain dimensions as they left the plant.

By the time that the INF Treaty was signed in December 1987, both nations had designated their portal sites. Both parties had continuous portal monitoring inspection rights for 13 years, with one important reservation. If, after the end of the second treaty year, the USSR stopped assembling ground-launched ballistic missiles that were "outwardly similar" to a banned INF missile for 12 consecutive months, then neither party would have the right to conduct portal monitoring inspections. If assembly resumed, so too would the continuous portal monitoring inspections.[8]

U.S. Preparations for INF Portal Monitoring Inspections

With the signing of the INF Treaty in December 1987 and the establishment of the On-Site Inspection Agency in January 1988, preparations for the continuous portal monitoring inspections began in earnest, as part of the larger effort to plan and organize the entire INF Treaty mission. With the portal monitoring inspections, two factors complicated the planning effort. First, this type of on-site inspection was unprecedented. Before the INF Treaty, neither nation had entered into any arms control agreement that required its armament plants to be placed under 24-hour-a-day on-site inspection. Plant managers, inspectors, escorts, the national governments—no one had any experience with this type of intrusive, continuous on-site inspection. The second complicating factor concerned a concept imbedded in the treaty: Virtually all rights and obligations were reciprocal; hence, what was done at Votkinsk influenced what was done at Magna and vice versa. More than with any other type of INF inspection, the issue of reciprocity complicated the operation of these inspections.

In February 1988, General Lajoie set up a separate directorate specifically dedicated to managing and planning for the continuous portal monitoring escort and inspection missions. Colonel Douglas M. Englund, U.S. Army; Colonel George M. Connell, USMC; and a small staff of officers constituted the original directorate. In the beginning they had two tasks: organize and coordinate all operational aspects of the U.S escort mission at Magna and organize, manage, and lead the portal monitoring inspection mission at Votkinsk.



At Magna, the Soviet continuous portal monitoring inspection area contained four buildings. From left to right, the Soviet Warehouse, Soviet Data Collection Center, American Inspection Building, and the Environmental Shelter for examining vehicles exiting the rocket motor production plant.



In the fall and winter of 1988-1989 at Votkinsk, construction began on the United States' permanent housing and continuous monitoring buildings. Here Anatoli V. Chernenko, Soviet Construction Supervisor, and Colonel George M. Connell, U.S. Site Commander, discuss construction issues.

Magna

Magna, Utah, was a small American industrial city of 22,000 people, lying 15 miles west of Salt Lake City in the foothills of the Rocky Mountains. It was the site of the Hercules Bacchus Works, a large industrial complex encompassing several rocket motor production plants. One of these plants, Hercules Plant No. 1, had produced Pershing II rocket motors from 1982 to 1987. All production of Pershing motors had ceased in June 1987, a year before the INF Treaty entered into force. When the Soviet Union chose this plant as the site of its portal monitoring inspections, it became the only United States defense plant ever subjected to continuous on-site inspection by Soviet personnel.[9]

The first Soviet planning delegation came to Magna in February 1988. On February 17 and 18, Vladimir Sadovnikov, General Director of the Votkinsk Production Association, and two other Soviet officials flew to Utah and met with George Reuckert, Principal Deputy Director of OSIA; Colonel Serge A. Chernay, USAF, OSIA planner; and Carey E. Cavanaugh of the State Department.[10] They discussed site preparations, access to medical facilities, and other concerns. Two weeks earlier, on February 4 and 5, Raymond F. Smith, OSIA Deputy Director for International Relations, and two U.S. embassy Moscow officials had visited Votkinsk to discuss U.S. portal monitoring requirements.



At Magna, the Soviet Union conducted its inspection monitoring operations from this building,the USSR's Data Collection Center.

From mid-February to late-June when site preparation teams went to the two plants, planning for the portal monitoring inspections was one of the most intensive activities associated with implementing the INF Treaty. For the United States, portal activities occurred on three levels: internationally, in bilateral meetings between the United States and the Soviet Union; within the U.S. government; and between the federal government and private contractors.

The international meetings to implement the treaty were the INF Treaty Technical Talks. These bilateral talks, held in Washington, Moscow, and Vienna in March, April, and May 1988, were small, week-long working sessions that addressed practical and procedural issues associated with establishing the INF Treaty's on-site inspection process. Portal monitoring inspections were a major topic at each session. Colonel Englund and Colonel Connell represented OSIA's Portal Monitoring Directorate. They participated in lengthy discussions with their Soviet counterparts concerning portal monitoring inspection procedures, logistics of getting inspection equipment and housing materials to the respective sites, and arrangements for temporary and permanent housing for the resident inspectors.[11]

In April 1988, Colonel Connell escorted a Soviet delegation to Magna to see firsthand the Hercules rocket motor production plant where the Soviet portal monitoring facility would be located. The U.S.-Soviet delegation then went to Albuquerque, New Mexico, to examine a full-scale model of the proposed technical and scanning equipment for U.S. inspections at Votkinsk. Two weeks later, Colonel Connell, Colonel Englund, and a small U.S. delegation toured the future portal inspection site at Votkinsk. Included in their tour was an examination of the plant's rail holding yard, where they observed a test of the rail scales proposed to be used at the Votkinsk portal. They also examined the Soviet Union's proposed stage measuring device.

Soon after the American delegation returned to Washington, Connell and Englund departed again. Connell went to Geneva, where he participated as a technical expert in the U.S.-USSR ministerial negotiations between Secretary of State George Shultz and Foreign Minister Eduard Shevardnadze. From there, he proceeded to Vienna for the final session of the technical talks. Englund traveled to Salt Lake City to review the operational planning for hosting the Soviet portal monitoring inspection team at Magna.

At Magna, the OSIA detachment commander, Lt. Commander James L. Szatkowski, USN, worked with the Hercules Corporation to initiate construction of a two-mile-long, nine-foot-high, double-chain-link fence around the perimeter of the 185-acre former Pershing II rocket motor production area. This was the area that would be subject to portal monitoring on-site inspections. Within this fenced area, the Hercules Corporation operated an active, working rocket motor production plant. An average of 400 to 500 trucks and other vehicles entered and left the fenced area each week. Under the treaty, Soviet inspectors would have the right to monitor all vehicles exiting the Hercules facility, to inspect those vehicles transporting cargo larger than a certain dimension (Pershing II first-stage rocket motor), and to conduct patrols of the perimeter fence.[12]

Before the Soviet inspectors arrived at the site, other construction projects had been initiated. The United States built a single portal road exiting from the former Pershing II plant. According to the treaty, all vehicles that could contain an intermediate range ground-launched ballistic missile (GLBM), or the longest stage (Pershing II, first stage) of any such missile, had to leave the plant on this portal road. On one side of the road, within sight of the plant and the perimeter fence, the Soviet Union had the right to build up to three buildings, which would serve as a data collection center, inspection team headquarters, and warehouse. In fact, during the technical

U.S. Team Leaders at Magna, Utah July 1988— May 1991

Lt. Cmdr. James L. Szatkowski, USN
April 1988 — September 1989

Col. William R. McNally III, USAF
September 1989 — June 1992



Magna, Utah, lies approximately 15 miles west of Salt Lake City.

talks, the Soviet INF delegation had indicated its intention to have only a single building, a modular trailer flown from the Soviet Union, at its portal. This building would serve both as their data collection center and as site headquarters.[13]

By June 1, 1988, the date that the INF Treaty entered into force, the Magna site was in the final stages of preparation. All indications were that the first Soviet inspection team would arrive in Magna on or about July 1. The technical talks and bilateral portal planning meetings had already decided many issues. The Soviet delegation had approved the U.S. arrangements at Magna for temporary housing in an apartment complex in Salt Lake City. The Soviets also had been given site diagrams for the perimeter and portal roads for Hercules Plant No. 1 and photographs of the types of vehicles that would be leaving the plant.[14]

While these meetings and site preparations were under way, Commander Szatkowski pulled together a small staff of technical managers, contract specialists, and security people. OSIA's initial Magna Detachment—Robert Erickson, Edward Dotson, Norman Olsen, and Elizabeth Olsen—worked closely with the Hercules Corporation, its plant managers, and employees. Plant security was a major concern, with training on the treaty and security precautions instituted for all employees and senior managers.

For nearly seven months, the Hercules plant and OSIA's Magna Detachment were the center of intense managerial and policy attention. If the INF Treaty itself was unprecedented, the right to conduct continuous portal monitoring inspections at a private industrial plant was extraordinary. Congress, senior administration officials, and the media wanted information on the planning, preparations, and readiness for the Soviet portal monitoring inspectors.[15] One week before the Soviet inspectors were expected to arrive in Magna, General Lajoie flew to Utah for a final review. Complimenting the Hercules Corporation for its "cooperation" after a difficult start, Lajoie characterized the previous five months as "hectic." In his remarks to the local press, he stressed that the Soviet inspectors would always be accompanied by American escorts, "to make sure they do what they have to, but no more."[16]

Votkinsk

Preparations for the U.S. portal monitoring inspections at the Votkinsk Machine Building Plant differed in several major respects from those at Magna. First, the task of placing a group of up to 30 resident American inspectors with their monitoring equipment in a closed Soviet city more than 1,000 kilometers into the interior of the Soviet Union required much greater attention to managerial detail. Every item needed for U.S. operations at Votkinsk had to be acquired, listed on official documents, packed, shipped, checked at the treaty-designated point of entry (Moscow), transshipped (by air and ground transportation) to Votkinsk, stored, unpacked, and made ready for use.

Second, because of the issue of distinguishing banned SS-20 missiles from non-INF SS-25 missiles, the INF Treaty authorized U.S. inspectors to



install and operate at the portal a large, nondamaging, radiographic imaging system, known commercially as CargoScan. This equipment—together with infrared profilers to monitor road and rail traffic, rail and road weighing scales, and a data collection center—was authorized in the treaty for use by both Soviet and American portal monitoring inspectors. The Soviets, reserving their treaty rights, chose not to install an imaging system at Magna, while the United States decided not to install rail or road weighing scales at Votkinsk. The United States, however, had planned all along to install and operate the treaty-authorized CargoScan monitoring equipment. This fact made the U.S. inspection operations at Votkinsk much more complex than Soviet operations at Magna. CargoScan was complex and, as events revealed, controversial in its installation and initial operations.

When OSIA was established in January 1988, one of its functions was to work with other U.S. government agencies to get this portal monitoring equipment, at that point in research, development, and acquisition, from the United States to the Soviet Union in accordance with the provisions of the INF Treaty. At OSIA, Colonel Englund and Colonel Connell and their staff—especially Lt. Commander Charles N. Myers, U.S. Navy; Major Mark L. Dues, USAF; Major Richard A. Kurasiewicz, U.S. Army; 1st Lt. Stuart K. O'Neill, USAF; and 1st Lt. W. Scott Ritter, USMC—concentrated in the spring of 1988 on tracking all of the items associated with this portal monitoring inspection equipment. Again and again, portal issues arose during the bilateral technical talks. Decisions there influenced what equipment would be shipped, when it would be sent, and, to a degree, when it would become operational.[17]

A third factor distinguishing United States inspection operations at Votkinsk was the composition of the American team. The United States decided to use contractor personnel, under the supervision of an OSIA site commander and his staff, to operate and maintain the inspection monitoring systems in Votkinsk. In December 1987, at the time of the White House



The United States' Data Collection Center for conducting continuous portal monitoring inspections arrived in Votkinsk in January 1989. Americans and Soviets worked together to position the data center on concrete foundations.

treaty signing, a small Joint Chiefs of Staff task force made a series of recommendations that influenced how the United States would implement the treaty. One recommendation, made by the task force leader Brigadier General Eugene L. Daniel, U.S. Army, was to use contractor personnel to operate and maintain the monitoring equipment at Votkinsk. Daniel's recommendation was based on specific guidance he had received to keep the new agency's manpower to a minimum and on his perception of the resident character of the portal monitoring mission at Votkinsk.[18] When OSIA was established in mid-January 1988, this decision was set; the agency's task was to work with other U.S. government agencies and develop specifications for the contract.

In June 1988, the Hughes Technical Services Company was awarded the $1.8 million dollar contract.[19] This company, a subsidiary of the Hughes Aircraft Company, had extensive experience in operating, maintaining, and supporting systems for the U.S. Navy, U.S. Air Force, and other government agencies. At Votkinsk, the company would be responsible for providing all of the technical, operational, and maintenance services required to manage, operate, and maintain the portal monitoring facility. Of the 30 American inspectors permitted on site at Votkinsk, the Hughes Company would provide up to 23. The other inspectors—the site commander, deputy, and treaty specialists—would be military officers and civilian personnel assigned to OSIA. Because the contract was not awarded until June 1988, after the treaty had entered into force, there would be a period for interviewing, hiring, and training company personnel. Consequently, for the initial six to seven weeks, OSIA inspection teams conducted the portal monitoring inspections.

The United States intended to initiate its portal inspections at Votkinsk as soon as possible under the terms of the treaty. General Lajoie selected Colonel Englund and Colonel Connell, both experienced, senior Soviet specialists, as site commanders at Votkinsk. They rotated every three to four weeks, with one of them on site in Votkinsk at all times. Accompanying them, until the Hughes personnel arrived in mid-August, was an inspection team of approximately 25 members. Colonel Englund led the first team.

For all INF inspectors the months of July and August 1988 were exciting times. The United States and the USSR conducted more than 150 baseline inspections in eight weeks; in addition, they initiated three of the four other types of INF inspections—portal monitoring, closeouts, and eliminations. These initial on-site inspections set precedents that influenced all subsequent INF inspections and sent a strong signal about how the treaty would be carried out.

Initial Inspections at Votkinsk

On the morning of July 1, 29 U.S. INF inspectors arrived at Moscow's Sheremetyevo Airport. The Americans comprised two inspection teams; one would conduct a baseline on-site inspection at Rechitsa Missile Operating Base, the other would initiate the continuous portal monitoring inspection at Votkinsk. Colonel Englund led the latter team.[20] It was a large team consisting of 19 inspectors, including Englund, Lt. Colonel Douglas C. Guiler, U.S. Army; Lt. Commander Charles N. Myers, U.S. Navy;



Here, American inspectors at Votkinsk begin the process of measuring the length of a rail car exiting the Soviet missile final assembly plant.

Lt. Commander Andrew S. Ritchie, U.S. Navy; Major Mark L. Dues, USAF; Major Richard A. Kurasiewicz, U.S. Army; 1st Lt. Robin A. Ennis, USAF; 1st Lt. Stuart K. O'Neill, USAF; and Lt. W. Scott Ritter, USMC. When the American team flew from Moscow to Votkinsk, they were met by the advance site team that arrived in the city on June 21. This five-person team had performed an initial site survey, met with the plant representatives, and made hotel arrangements for the full team that would arrive on July 2. When Colonel Englund and the team arrived, the advance party joined up with them, becoming official INF inspectors.

Initially the American team stayed in a hotel in the city of Votkinsk. For each shift, Soviet escorts took the American inspectors by bus to the plant, 15 kilometers from the city. The U.S. portal compound at the plant was approximately 2 1/2 acres and was situated 50 yards in front of the plant's main exit. A main rail line and a road emerged from the plant and ran next to the U.S. compound.

On their first day at Votkinsk, Colonel Englund had the U.S. inspectors begin patrolling the 4.7-kilometer perimeter of the plant and monitoring all road vehicles and railcars leaving the missile assembly plant. Establishing their offices in a temporary Soviet building on the American compound, the inspectors rotated through round-the-clock shifts, with four team members, a duty officer, and three inspectors monitoring the portal. All inspectors followed a U.S. policy of working in pairs. If measurements were taken, Soviet escorts, with linguists, were always present. The U.S. inspectors recorded their measurements on special, agreed-upon report forms; these were compiled at the end of each month in an INF Treaty Monthly Portal Inspection Report. As with all INF inspection reports, two originals were made, with a copy retained by each party.[21]

In the first few weeks at Votkinsk, Colonel Englund and Lt. Colonel Guiler, his deputy, met frequently with the Soviet escort leaders and plant officials. Anatoly D. Tomilov represented the Soviet Ministry of Defense Industry and the Votkinsk Machine Building Plant. Vyacheslav K. Lopatin, deputy director for coordination of the INF inspection, attended many of these meetings. Topics included treaty rights and obligations, construction schedules, technical data on monitoring equipment, and reciprocal treatment of INF inspectors at Votkinsk and Magna. The latter was a significant issue, as the Soviet Union's portal monitoring inspections had already begun at Magna.

Magna

On July 2, 1988, the first Soviet INF portal monitoring inspection team arrived in Utah. Colonel Anatoly Y. Samarin led the 22-man Soviet inspection team. They were met at the Salt Lake City airport by representatives of the state governor, the city, and OSIA, as well as journalists, television reporters, and local citizens. Colonel Samarin characterized the reception to an *Izvestiya* reporter as a "great ceremony" and a "very major event in Utah's life."[22] Following a short rest, the Soviet team was given a familiarization tour of the treaty area at Hercules Plant No. 1—the perimeter fence, exits, and the portal area. Colonel Samarin informed Colonel Connell, the

senior U.S. escort, that in deference to the American national holiday on July 4, the Soviet inspection team would delay the start of its continuous portal monitoring inspections until July 5. At a news briefing, Samarin summarized for the local, national, and international media the Soviet team's purpose at Magna. "Our task is to verify that output banned by the treaty is not shipped from the plant. We shall be in Magna two to three months, then a new group will fly in. Meanwhile, we are resolving everyday questions which, thanks to the foresight of the U.S. side, have been reduced to a minimum."[23]

Initially, the "everyday" questions at Magna fell into three categories: establishing the portal monitoring inspection process; transporting and installing the Soviet portal monitoring equipment; and overseeing the construction of a permanent residence for the Soviet inspectors. In the first few weeks, Colonel Samarin met daily with Lt. Commander Szatkowski and Robert Erickson, OSIA detachment commander and senior technical manager, to discuss questions of inspection procedures, site preparations, and permanent housing. It would take more than a year for the resolution of some of these issues.

Within the U.S. government, responses to Soviet questions were coordinated throughout OSIA Headquarters and with other agencies and



During the first year, the Soviet continuous portal monitoring inspection team moved into permanent housing quarters. Colonel Vyacheslav S. Lebedev, Soviet team leader, holds high the ribbon on opening day. U.S. team leader, Commander James L. Szatkowski (r.) accompanies Colonel Lebedev.



Magna: Soviet inspectors measure a rocket motor to determine the diameter.



Magna: a vehicle exits the plant and passes through the environmental shelter.



Votkinsk: the U.S. Data Collection Center, flown in by C-5A aircraft , is placed on its foundations.



Votkinsk: a Soviet vehicle passes through the U.S. road profiler system.

Votkinsk: Colonel Douglas Englund, U.S. Site Commander, presents a gift to General Major Vladimir Medvedev, Director NRRC.



Magna, Soviet inspectors discuss conditions in the USSR, and answer questions in a meeting at the First Unitarian Church.







Votkinsk: American inspectors celebrate July 4, 1991 with an open house and picnic.

Votkinsk: on July 4th, 1989 American inspectors hosted a picnic and celebration of the first year of continuous inspections. Soviet officials and their families attended.

departments. In issue after issue, two principles emerged: adherence to the treaty and reciprocal treatment for Soviet inspectors at Magna and American inspectors at Votkinsk.[24]

Practical and procedural questions arose during the inspection process, as anticipated by the treaty negotiators. The treaty established the Special Verification Commission, with a specific charter to resolve questions relating to compliance with treaty obligations and to agree on measures for improving the "viability and effectiveness" of the treaty. This bilateral commission began meeting in Geneva in June 1988; portal monitoring issues arising from both the Magna and Votkinsk on-site inspections were major topics during its initial 18 months.[25]

Soviet portal monitoring inspections at Magna began as planned on July 5 and proceeded continuously from that day. Colonel Samarin explained to a *New York Times* reporter that the Soviet inspectors worked in 24-hour shifts at 3-day intervals. They observed or inspected every vehicle leaving the fenced facility through the portal or through one of the two plant exits. They carried out random perimeter patrols, usually walking around the two-mile-long fence encompassing the 185-acre plant.[26] Hercules Plant No. 1 was a working plant, with an average of 400 to 500 vehicles entering and leaving each week. All exiting vehicles were subject to monitoring. Because the Soviet Union's portal monitoring equipment would not be in place and operational for more than a year, initial monitoring was done visually.

Under the treaty, the United States had to declare when a vehicle leaving the plant was large enough to contain a missile or a missile stage as large as or larger than the first stage of a Pershing II missile. Those vehicles had to leave the plant along the specially built portal road to the Soviet inspection area. Using a measuring tape and a fixed measuring rod, the Soviet inspectors determined if the missile stage or cargo being transported exceeded 3.68 meters in length and 1.02 meters in diameter, which were the dimensions of the Pershing II missile's first stage.*

In Utah there was genuine community interest in the Soviet INF inspectors. Requests for speaking engagements, participation in local events, personal home visits, and media interviews flowed into OSIA's Magna office. The Soviet team chief was informed of each request; he decided which ones to accept. For all events, Soviet inspectors were transported and escorted by OSIA personnel. Private home visits were not allowed. In July and August, the Soviet team participated in many events, speaking at service clubs, community groups, and business organizations. Sports events were especially popular.[27]

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* In the Memorandum of Agreement of December 21, 1989, this measurement was changed from 3.68 meters to 3.25 meters.



During the first treaty year at Votkinsk, 1988-1989, Soviet engineers began construction on the American residence, office, and inspection buildings.

First Treaty Year at Votkinsk

When there are no precedents in an international treaty, the "first time" takes on added significance. At Votkinsk, the first year established patterns for subsequent years. Colonels Englund and Connell, the alternating U.S. site commanders, found themselves participating in extensive discussions with Soviet officials at Votkinsk. Both American officers were fluent in Russian; both had served as military attachés at the U.S. embassy in Moscow. Their experience was put to good stead as Soviet officials frequently discussed the reciprocal treatment being given to the Soviet inspectors at Magna. When Englund and Connell returned to Washington, they often flew to Magna for a firsthand account of the Soviet inspection and American escort issues there.

During the first treaty year at Votkinsk, Englund and Connell focused the American inspectors on two tasks. First, they established the U.S. standards and procedures, based on the treaty, for conducting the inspections. Second, they oversaw the installation and operation of the monitoring equipment. As noted above, the INF Treaty gave the inspecting party the right to make perimeter patrols, install and operate monitoring equipment, make continuous, direct observation of the plant's portal and exits, and inspect those railcars leaving the plant. Colonel Connell explained to a reporter from the *Boston Globe* that he was "paid to be skeptical.... Everything is suspect," he said. "It's up to the Soviets to prove otherwise."[28]

In the first two months, July and August, the American team consisted of a team chief, deputy, linguists, treaty specialists, and inspectors. Twenty U.S. inspection teams had been trained to conduct INF baseline inspections. One of those teams went to Votkinsk and assisted with the



American Inspector Charles B. Haver.

portal monitoring inspections. Every 15 days for the first six weeks, another American inspection team rotated into Votkinsk. In mid-August, the first cadre from the Hughes Technical Services Company arrived at the site. Led by Jerry W. Porter, these inspectors were responsible for providing the technical, operational, and managerial services for operating and maintaining the U.S. portal monitoring facility at Votkinsk. Within a month, there was a full complement of 23 Hughes Company personnel in Votkinsk. They were a mix of professionals and specialists: civil engineers, electronic technicians, Russian linguists, data management specialists, physician assistants, and chefs. By mid-September, they had completed their initial on-site training and were functioning as an integral part of the American inspection team. Always on site were a cadre of American military personnel: the OSIA site commander, deputy, and treaty specialists. They provided leadership and had specific responsibilities in communicating with Soviet officials.

In the fall, winter, and spring months of 1988-89, the portal monitoring inspections continued, but another task emerged as significant. The American inspectors had to install, with the assistance of Soviet engineers, the treaty-authorized inspection equipment. Following site preparation by Soviet engineers, U.S. inspectors installed the following equipment: traffic lights, power conduits, a closed-circuit television system, semaphore traffic gates, computers,and infrared profilers for both road and rail traffic. Thousands of hours were spent digging conduits, pouring concrete foundations, laying telephone and power cables, and installing components of the monitoring equipment. By June 1989, the American inspectors were using the equipment.

In a significant accomplishment that first year, Soviet construction engineers completed all of the work on the U.S. permanent housing and offices at Votkinsk. Three large dormitories and an office building were constructed in the U.S. compound next to the plant. The three two-story



Votkinsk, U.S. dormitories under construction in the spring of 1989.



At Votkinsk, the American inspectors hosted a ceremonial opening of the new residences and office buildings on June 10, 1989. Colonel Douglas M. Englund, U.S. Site Commander, welcomed the guests.

residences had rooms for each of the INF inspectors, while the office building contained space for dining, community activities, offices, and recreation. A warehouse and sauna were also constructed on the compound. All of the furnishings and equipment needed for the American inspectors' residence and offices were acquired in the United States, transported to the Soviet Union, and installed at Votkinsk. In January 1989, for instance, the U.S. Air Force flew ten C-141 cargo flights to Izhevsk, the nearest large city to Votkinsk. It was 38 degrees below zero Fahrenheit, with three to four feet of snow. Soviet crews helped the Americans unload the cargo and transport it to the American compound.[29]

On June 10, 1989, there was a celebration at the American compound. The first year of the INF Treaty was history; Colonel Englund and the American team held a ceremonial opening of the U.S. inspectors' residence and office buildings. They invited Jack F. Matlock, U.S. ambassador to the USSR; General Major Vladimir I. Medvedev, director of the USSR Nuclear Risk Reduction Center; and other Soviet officials and guests to visit the U.S. facilities. It was a propitious time to review the work of the first year.[30]

U.S. portal monitoring inspections had begun in July 1988; they had gone on continuously, 24 hours a day, throughout the year. Contractor personnel had been hired, trained, and were on site performing their duties. Some of the treaty-authorized monitoring equipment—traffic lights, induction loops, closed-circuit television, semaphore traffic gates—had been shipped to Votkinsk and was being used. Other more critical equipment—specifically the large, nondamaging imaging system known commercially as CargoScan—was not operational by the end of the first treaty year. The United States had negotiated, signed, and ratified the INF Treaty with the intention of using the imaging system to scan railcars leaving the portal to determine categorically that no banned SS-20 missiles were exiting the

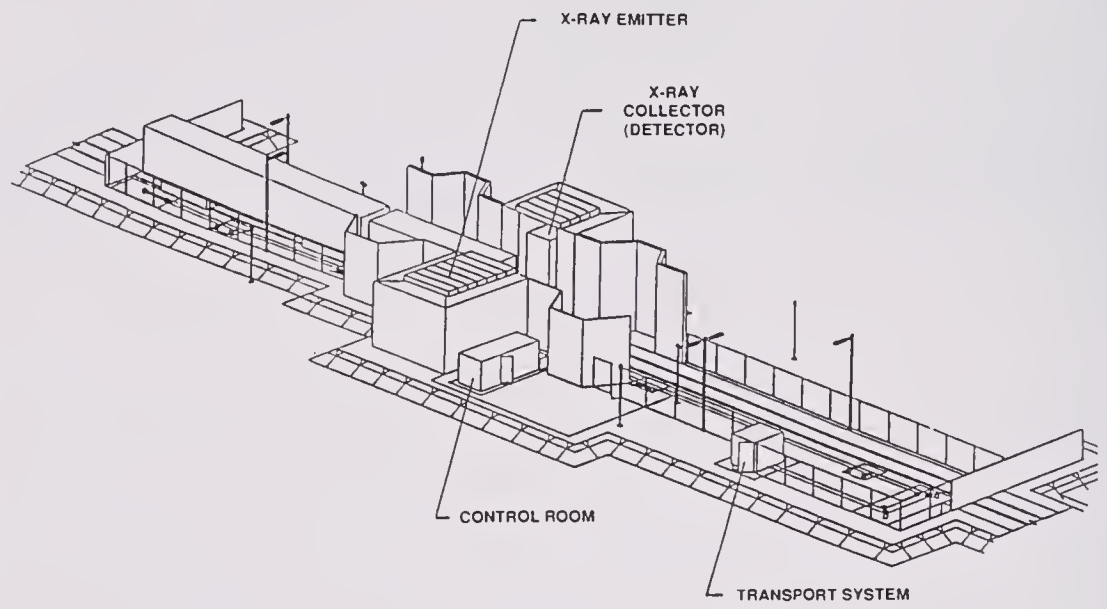


Inspector Tim Kubik preparing food at the celebration.

Votkinsk plant. Until that system was installed, approved, and was in use at Votkinsk, the U.S. government would not consider its INF portal monitoring inspection regime fully operational.

In June 1989, considerable work remained before CargoScan would be operational. Soviet officials had to approve the system's technical documents, Soviet engineers had to complete construction of the CargoScan buildings at the site, the United States had to transport the equipment to Votkinsk and conduct operational and safety testing, and, finally, Soviet officials had to approve the equipment and operating procedures before scanning operations could begin. These activities became the focus of the second treaty year.

The Radiographic Imaging System (Cargoscan)



Headquarters OSIA

CargoScan was the United States' radiographic imaging system for the continuous portal monitoring inspections at Votkinsk. Soviet missile cars would pass through the linatron X-ray and American inspectors monitoring the system would ascertain whether the missile in the rail car was, in fact, a banned missile or not.

In the first year, however, permanent residences and offices at the Votkinsk compound had been constructed, furnished, and occupied. The logistical system for getting people, materials, and supplies from the United States to the Soviet Union had proven to be effective and smoother than anticipated. Many of the difficulties inherent in crossing international borders, passing through customs inspections, and completing the transshipment of equipment and supplies had been overcome in the first year. The American site commanders and their Soviet counterparts had held frequent, regular discussions on portal issues.

During the first year at Votkinsk, issues and information about portal monitoring inspections went from the site to the respective governments and then to the Special Verification Commission in Geneva. A strong link had emerged between on-site experience at the portals and diplomatic negotiations in the commission. When the INF Treaty Memorandum of Agreement was signed in December 1989, it clarified, altered, and authorized the portal monitoring equipment and inspection procedures at both Magna and Votkinsk.



At the Votkinsk ceremony opening the American compound, U.S. Ambassador Jack F. Matlock stood with V.G. Tolmachev, Plant Manager, General Medvedev, NRRC Director, and other Soviet officials.

The American celebration on June 10, 1989, at Votkinsk was an open house. At two o'clock the doors of every building were opened and the American inspectors showed their Soviet guests their new residence and office complex. More than 200 people attended. Colonel Englund, in his welcoming remarks, said, "When I first arrived in Votkinsk in May of last year, this place was an empty field. Today, when much has been done by both sides, we are opening the beautifully built living complex and inspection workplace. The labor put into this, as you can see, is of the highest quality and reflects the serious attention of both sides towards the fulfillment of the Treaty."[31]

Ambassador Matlock echoed some of the same themes in his remarks: "We are grateful to the Soviet builders for their good work. The opening of the village...shows everyone that a very serious treaty for the destruction of missiles is being carried out. Conscientious fulfillment of one treaty breeds trust, which aids in resolving many contentious questions in all areas."[32] V. G. Tolmachev, director of the Votkinsk Machine Building Plant, responded by pointing out that at the portal of the factory "two governments [were] reconstructed here in miniature."[33] Finally, General Major Medvedev, director of the Soviet Union's Nuclear Risk Reduction Center, thanked the INF inspectors for their American hospitality and cast the event into the context of recent history: "Two years ago, few people on earth would have suggested that in Votkinsk or in Magna, near the gates of missile factories, groups of specialists would observe the exit of products.... Nevertheless, today is a reality."[34]

First Treaty Year at Magna

During the first treaty year at Magna, Soviet portal monitoring inspectors dealt with many of the same issues as the American inspectors at Votkinsk. Initially, the Soviet team concentrated on establishing inspection procedures for the continuous on-site monitoring of the Hercules Corporation's former INF missile plant site. Using the procedures detailed in the treaty, they observed the departing traffic, patrolled the perimeter fence, and inspected any vehicle transporting a missile stage or any cargo that had been declared to exceed the agreed-upon length (3.68 meters) and diameter (1.02 meters). U.S. escorts were always present on the site, observing the Soviet inspectors and confirming their measurements.

Throughout the first treaty year, the Soviet inspectors at Magna held extensive discussions with the U.S. detachment commander, Lt. Commander Szatkowski, and his staff. Initially, the topics concerned the on-site inspection procedures, coordination with the plant, and preparations for installation of the authorized Soviet portal monitoring equipment. Installation required site preparations—grading, foundation work, sewage, and electrical power. Commander Szatkowski and Robert Erickson met frequently with the Soviet team chief and went over plans and schedules for each stage of the site preparations. By the fall of 1988, construction was under way on most of the Magna portal projects. This work closely paralleled the work being done at Votkinsk on the American monitoring equipment. At Magna, the weekly meetings between U.S. and Soviet team chiefs helped resolve minor issues.[35]



The Soviet housing complex at Magna was located at West Jordan,Utah, a small suburb located approximately eight miles southeast of the plant. The Soviet inspectors moved into these new apartments in April 1989.



At Magna, Soviet inspectors, dressed in special anti-static suits, examine a rocket motor product that had exited the plant. American linguist Orr Potebnya assists Robert Erickson and the Soviet inspectors in answering a question.

In late July 1988, the USSR's portal monitoring building arrived by air cargo from the Soviet Union. The building was a group of four prefab modules that would be fitted together at the site. It would become the Soviet Union's data collection center. Also included in the cargo were two small booths for monitoring road exits. The Soviet buildings and booths were inspected by U.S. officials at the airport, then transported to the Magna site. In early October, they were placed on concrete foundations. The U.S. escort team, assisted by the Soviet inspectors, installed electrical wiring, backup electrical generators, and treaty-authorized monitoring equipment. By mid-October, the Soviet inspection team was monitoring the traffic leaving the portal from their data collection center. Other monitoring equipment—traffic lights, gate switches, and closed-circuit television—were also installed during the first treaty year.

By agreement, the two inspection agencies determined that, the party being inspected would provide permanent housing for the portal monitoring inspectors within the first year. The inspecting party would pay for the housing, as required by the treaty, but it would be constructed by the inspected party. At Magna, U.S. officials offered the Soviet INF inspectors two choices for their permanent housing. The Soviets selected a five-acre site in West Jordan, Utah, a small town approximately eight miles southeast of Magna. In West Jordan, the U.S. government proposed to build a permanent apartment housing complex for the 30 Soviet inspectors, equipped with a clubhouse, swimming pool, spa, jogging path, and tennis court. It would cost $1.6 million. The Soviets agreed. Construction began in October 1988; as the work proceeded in the fall and winter months of 1988-89, Soviet team chiefs were briefed weekly on the construction status.

They also made periodic escorted visits to the site. By the spring of 1989, the West Jordan housing complex had been completed. The Soviet inspection team moved into their new residences on April 18. Approximately two weeks earlier, the American inspectors at Votkinsk had moved into their permanent quarters.[36]

By the end of the first treaty year at Magna, the unfinished items included construction of the Soviet portal warehouse and paving of the portal inspection area. The U.S. site commander, Lt. Commander Szatkowski, had these items under contract; they would be completed during the second treaty year. As at Votkinsk, the portal monitoring equipment and procedures at Magna were subject to scrutiny and deliberations in the Special Verification Commission in Geneva. There, Soviet and American delegations worked out changes for the Magna portal monitoring equipment and procedures that were published in the Memorandum of Agreement of December 1989.

From the First to the Third Treaty Year

In the broadest sense, two developments influenced the Soviet and American INF portal monitoring inspections in the second and third treaty years. First, on December 21, 1989, U.S. Ambassador Steven E. Steiner and Soviet Ambassador Mikhail N. Strel'tsov signed the INF Treaty Memorandum of Agreement. This important document covered many aspects of the treaty communication procedures, elimination procedures, pre-inspection requirements, general rules for conducting on-site inspections, and specific provisions for each type of inspection. On-site portal monitoring inspections received the



At Votkinsk, an American inspector attaches the cable mechanism that pulls the missile rail car through the CargoScan imaging system.



At Votkinsk, American and Soviet inspectors stand before a missile rail car in January 1990.

most attention, as virtually every aspect was defined and codified into mutually agreeable language.[37]

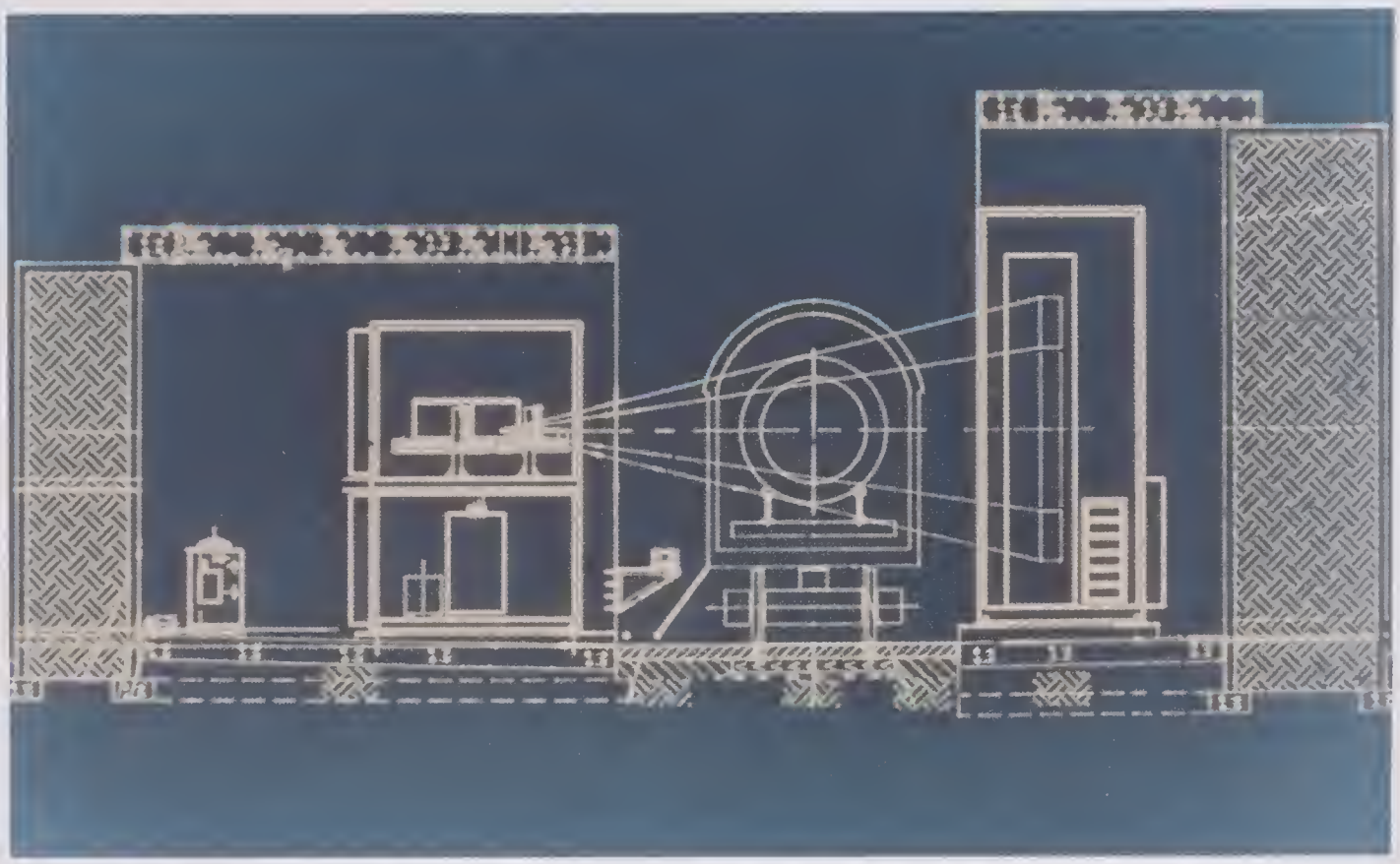
The Memorandum of Agreement detailed the obligations of the party being inspected at the portals regarding the presentation of the missile stages leaving the plant, the number of exits, the construction of storage facilities, and procedures for all vehicles exiting the portals. It defined the rights of the inspecting party regarding portal monitoring equipment, radio communications for inspectors making perimeter patrols, procedures for patrolling the perimeter, procedures for measuring missiles and missile stages leaving the plant, CargoScan requirements and installation procedures, inspector rotation procedures, and embassy visits by portal inspectors. When the memorandum was signed, it became one of the most significant treaty documents governing U.S. and USSR portal monitoring inspections.

The second major issue that influenced Soviet and American portal monitoring inspections occurred at Votkinsk, where a serious issue arose over the installation and initial operation of the U.S. nondamaging CargoScan X-ray imaging equipment. This equipment measured the length and diameter of the second stage of those missiles that Soviet officials declared, and U.S. inspectors confirmed, exceeded a certain treaty-defined length. Two Soviet missiles, the SS-20 (banned by the INF Treaty) and the SS-25 (not banned) had been or were being assembled at the Votkinsk plant. The CargoScan system would scan the declared railcars to determine if the second stage of any banned SS-20 missiles were leaving the plant. The U.S. government had always regarded CargoScan as critical to its INF portal monitoring inspection regime.



Missile rail car being pulled through the CargoScan building.

In the first treaty year, Soviet officials had started preparations for the CargoScan building at the portal monitoring site. Soviet engineers laid the



In February and March 1990, the operational status of CargoScan reached a crisis point. Delegations from Moscow and Washington flew to Votkinsk to meet and discuss the issues and recommend solutions.

foundation for the building, constructed a spur rail line, and erected a shielding wall. In the summer and fall of 1989, work accelerated on the CargoScan building, and all of the system modules were in place by mid-November. Soviet officials then indicated that the final installation of CargoScan could proceed. After the signing of the Memorandum of Agreement in December, the final equipment (the linatron X-ray system) was installed in January 1990. It was tested and declared by U.S. experts to be ready for imaging operations.[38]

Over the next two months the CargoScan system became a contentious issue at Votkinsk. In late February, Soviet officials raised several concerns about CargoScan operations, such as magnetic tape storage, joint operating procedures, and the X-ray safety procedures. The American site commander, Lt. Colonel Roy E. Peterson, U.S. Army, addressed the Soviet queries point by point. He cited the INF Treaty and the recently signed Memorandum of Agreement as authorization for use of the CargoScan system and the procedures for operating it. The Soviets disagreed.[39]

On March 1, the CargoScan issue reached a crisis point. Soviet officials declared that a missile-carrying railcar would be leaving the plant. When the railcar exited, Lt. Colonel Peterson directed that the customary visual and manual measurements be taken by U.S. inspectors. Ascertaining that the railcar contained a missile, he requested that it be scanned using the CargoScan system. Since the Soviets had not yet agreed that CargoScan was operational and ready for use by the U.S. inspectors, they did not agree to move the railcar into the CargoScan area. Instead, by mutual agreement, the railcar was moved into the special environmentally-controlled building within the U.S. portal compound, where it was kept under constant U.S. observation while the problem was reviewed by senior government officials in both nations. The railcar and missile remained in the building until the evening of March 9, when Soviet plant officials announced that the railcar and its contents would be moved out of the environmental building

immediately and taken out of the American area. Simultaneously, the Soviets declared their intention to have additional railcars leave the plant without allowing the United States to image them.[40]

This was an extremely serious action. Colonel Peterson declared that the U.S. government had been denied its rights under the treaty to image the missile in the railcar. He directed that photographs be taken, in accordance with the treaty. He asked that the missile canister be opened for visual examination pursuant to paragraph 14(c) of Section IX of the treaty's Protocol on Inspections. It was. Later that same day, two additional missile-carrying railcars left the plant. These railcars were manually inspected , but they exited the American compound without being imaged by CargoScan, despite U.S. objections.[41]

This action was so serious that Secretary of State James A. Baker III lodged an official protest with Soviet Foreign Minister Eduard A. Shevardnadze.[42] To resolve the impasse at the plant, the two governments agreed to dispatch a team of experts to Votkinsk to investigate the issue and make recommendations to the respective policy communities. From Washington, George W. Look, the Secretary of Defense's representative to the Special Verification Commission, led a small U.S. delegation to Votkinsk. Lev Kokurin, Soviet Defense Industry Representative for Votkinsk, led the Soviet Union's delegation. The two groups spent five days in Votkinsk reviewing the procedures and technical issues for operating the CargoScan system with Colonel George Connell, Director of Portal Monitoring at OSIA; Lt. Colonel Peterson, U.S. site commander; and Anatoly D. Tomilov of the Soviet Ministry of Defense Industries. As a result of these discussions, the two sides agreed to technical and operational steps that addressed Soviet concerns. These modifications did not alter CargoScan's ability to operate within the parameters of the treaty's Memorandum of Agreement. In turn, the Soviets agreed that the system could become operational.[43] By the end of March, the American on-site inspectors had the CargoScan system operational at Votkinsk and Soviet railcars leaving the portal were being imaged in accordance with the new procedures.[44]



A table model of the American compound at Votkinsk.

With the major exception of this CargoScan incident, INF portal monitoring inspections at Magna and Votkinsk developed in the second and third treaty years into the inspection regime that had been envisioned by the INF Treaty negotiators. Leadership changes occurred at both portal sites. At Magna, Colonel William R. McNally, USAF, became the senior escort and OSIA Chief of the Magna Portal Division. Colonel Connell left Votkinsk to become Director of Portal Monitoring at OSIA Headquarters. Colonel Englund became Chief of Staff, OSIA. In the fall of 1990, Colonel Laurence Burgess, USMC, became the new Director of Portal Operations.

U.S. Team Leaders at Votkinsk

July 1988 - May 1991

Colonel Douglas M. Englund, USA/ Colonel George M. Connell, USMC *	July 1988 - October 1989
Lt. Col. Roy E. Peterson, USA	October 1989 - December 1989
Lt. Col. Mark L. Dues, USAF	December 1989 - February 1990
Lt. Col. Roy E. Peterson, USA	February 1990 - April 1990
Maj.Thomas E. Michaels, USA	March 1990 - May 1990
Cmdr. Charles N. Myers, USN	May 1990 - June 1990
Lt. Col. Mark L. Dues, USAF	June 1990 - July 1990
Maj. Thomas E. Michaels, USA	July 1990 - September 1990
Lt. Col. Mark L. Dues, USAF	September 1990 - November 1990
Maj. Thomas E. Michaels, USA	November 1990 - December 1990
Lt. Col. Stephen J. Zolock, Jr. USAF	December 1990 - January 1991
Lt. Col. Mark L. Dues, USAF	January 1991 - February 1991
Lt. Col. Nicholas Troyan, USA	February 1991 - March 1991
Lt. Col. Warren C. Wagner, USA	March 1991 - April 1991
Lt. Col. Stephen J. Zolock, Jr. USAF	April 1991 - May 1991

* For 16 months, Colonel Englund and Colonel Connell rotated as the American Team Chief every three to four weeks

Soviet Team Leaders at Magna, Utah

July 1988 - May 1989

Anatololiy Yevgenyevich Samarin	July 1988 - September 1988
Vyacheslav Vasil'yevich Kharlamov	September 1988 - December 1988
Vyacheslav Vasil'yevich Yevdokimov	December 1988 - February 1989
Viktor Dimitryevich Kozlov	February 1989 - April 1989
Vyacheslav Semenovich Lebedev	April 1989 - June 1989
Aleksandr Vasil'yevich Kuznetsov	June 1989 - August 1989
Anatololiy Yevgenyevich Samarin	August 1989 - October 1989
Gennadiy Mikhaylovich Komogortsev	October 1989 - December 1989
Vyacheslav Vasil'yevich Yevdokimov	December 1989 - February 1990
Gennadiy Ivanovich Solntse	February 1990 - March 1990
Vyacheslav Semenovich Lebedev	March 1990 - May 1990
Gennadiy Mikhaylovich Komogortsev	May 1990 - July 1990
Anatololiy Yevgenyevich Samarin	July 1990 - September 1990
Vyacheslav Vasil'yevich Yevdokimov	September 1990 - November 1990
Vyacheslav Semenovich Lebedev	November 1990 - January 1991
Vladimir Ivanovich Tselishchev	January 1991 - March 1991
Aleksandr Vasil'yevich Kuznetsov	March 1991 - May 1991
Anatololiy Yevgenyevich Samarin	May 1991

AN AMERICAN NURSE IN VOTKINSK



In February 1991, Phyllis Sanders, Registered Nurse, began working at Votkinsk for the Hughes Technical Services Company. In November 1992, she recalled her experiences at Votkinsk in nursing, inspecting, and participating in local, Russian cultural activities. Educated at Pennsylvania State University and the Samuel Merritt Hospital School of Nursing in Oakland, California, she worked in trauma centers, emergency and operating rooms prior to her Votkinsk duty.

I am an R.N. and came to Votkinsk in February 1991 as the person responsible for the medical care of 30 U.S. civilian and military portal monitoring inspectors.

I believe that we were in the vanguard as far as any group of Americans outside those in the Embassy in Moscow who were living in the then Soviet Union. Medical care in Russia was a virtual unknown to us, and in order to establish what our resources here might be, and to develop a policy for our own care. I did a lot of work investigating and evaluating the Russian medical system. Seeing that system from the inside out, writing my opinions about it, and interacting extensively with the Russian medical personnel, was a time in my career that I will always remember.

The routine, daily care of the inspectors here is a pleasant, new type of work for me. The inspectors are polite, healthy, intelligent, and conscientious individuals who are interested in staying healthy. Many of the medical problems encountered are athletic injuries. This is a far cry from gunshots, stabwounds, and drug overdose that I experienced as a nurse in a trauma center in Oakland, California.

Beyond the duties associated with our particular areas of expertise, each inspector "sits shift." This means that he or she sits several times a week for 12-hour periods, day or night, seven days a week, 52 weeks a year. The "sitting" is in a small metal building with a lot of high-tech equipment, monitoring the traffic coming out of the Russian missile assembly plant. One thing I did not get away from, then, is shift work. I am now spending my second Thanksgiving on site and will soon share my second Christmas with my fellow inspectors.

The inspectors, to a great degree, develop close relationships, not only out of common interests and disposition, but from the sharing of a common experience. However, we live under many restrictions. We are 30 people confined to a living area of about 2.5 acres. We can only leave this area by request, and that request must be made a full 24 hours in advance. It may then be "approved," but just as often it is not. When we finally do go out, we are always under escort, and we may not wander freely from the place, or the stated activity.

Despite all of this, being deep inside Russia is, in some convoluted way, the adventure of all adventures. In my wildest dreams I would never have pictured dinners with American generals and Soviet government officials at a dacha in a forest in Udmurtia. Or listening to hauntingly beautiful a capella music in the Russian Orthodox Church on Easter morning, with the elaborate service being performed by half a dozen priests dressed in rich brocades and silver vestments juxtaposed against hundreds of attending men, women and children. The Russians were wrapped in dark, colorless cloth coats, heavy woolen head scarves, and woolen stockings. Standing in the nave of the church for over two hours, the Russians worshiped their God openly after so many years of oppression.

Source: Letter, Phyllis Sanders, Votkinsk, Russia, November 27, 1992.

Summary

Throughout the first three years of the INF Treaty, Soviet and American on-site portal monitoring inspections were watched closely. Other arms control treaties were being negotiated; American and Soviet START Treaty negotiators in Geneva examined the INF experience carefully. On-site inspections of strategic missile armament plants would, in all probability, be a part of any final START Treaty. Thus, the experiences of the INF portal monitoring inspectors and escorts did not go unnoticed; the arms control community in both the Soviet Union and the United States kept a close watch on the process and the results of these unprecedented on-site inspections.



At Votkinsk in the winter of 1988-1989, the American portal monitoring inspection team gathered one morning and framed this American flag in the snow.

NOTES: CHAPTER 5

[1]"Lajoie's US Team Arrives," *TASS*, July 2, 1988, rpt. in *FBIS-SOV*, July 5, 1988, pp. 3-4. See also: Dawn Tracy, "Utah Greets Soviet Arms Inspectors," *Salt Lake Tribune*, July 3, 1988, pp. A1-2; *Salt Lake Tribune*, July 1-5, 1988; *Desert News*, July 5, 1988; *INF Treaty*, Article 11.

[2]*The INF Treaty*, Article 6, Paragraph 1.

[3]Thomas B. Cochran et al., *Nuclear Weapons Databook: Soviet Nuclear Weapons* (New York: Harper & Row, 1989), Vol. 4, pp. 68-77. See also: CIA, *Soviet Weapons Industry*, 1986; *INF Treaty Memorandum of Understanding* for the SS-20, SS-12, SS-23, SS-25, all of which had been or were currently being assembled at the Votkinsk Machine Building Plant.

[4]*INF Treaty Memorandum of Agreement*, pp. 115-120.

[5]James R. Blackwell, "Contributions and Limitations of On-Site Inspections in INF and START," in Dunn, *The New Role*, pp. 95-120.

[6]Ibid. pp. 100-102.

[7]*INF Treaty*, Article 11, Paragraph 6.

[8]Ibid.

[9]"Missile Maker Unhappy That Russians Are Coming," *Washington Post*, June 1, 1988, p. 16. See also: Susan Kelleher, "To Utah Town, Soviet Monitors Will Ad Flavor to Ethnic Crucible," *Washington Post*, July 2, 1988. The Hercules Corporation's Bacchus Works Complex produced rocket motors for the MX, Trident, and Midgetman nuclear missile stages.

[10]*Salt Lake Tribune*, February 18, 1988.

[11]*Reports of the Technical Consultations*.

[12]*INF Treaty Protocol on Inspections*, Article 9, Paragraph 1.

[13]Ibid., Paragraph 6a. See also: *INF Treaty*, Article 11, Paragraph 6; *Reports of the Technical Consultations*.

[14]Interview with Lt. Commander James L. Szatkowski (USN), OSIA Detachment Commander at Magna, January 2, 1990. See also: Colonel George M. Connell (USMC), "Memorandum: Magna Issues and Tasks," June 22, 1988.

[15]Ibid.

[16]Lajoie as quoted by Mike Gorrell, "US Ready for Soviets Arrival," *Salt Lake Tribune*, June 24, 1988, p. B1.

[17]*Reports of the Technical Consultations*.

[18]Interview, Daniel.

[19]*New York Times*, June 23, 1988.

[20]"Lajoie's US Team Arrives," *TASS*, July 2, 1988, trans. in *FBIS-SOV*, July 5, 1988, pp. 3-4.

[21]For additional information on portal monitoring activities, see: David Arnold, "It's Not a Job for the Squeamish," *Boston Globe*, May 15, 1989; Tom Ashbrook, "Our Men in Votkinsk," *Boston Globe*, August 31, 1988, p. 66; Jim Stewart,

"Experts: The INF Treaty Works Surprisingly Well," *Atlanta Journal-Atlanta Constitution*, November 27, 1988, p. 20.

[22]"Inspector on 'Warm' Reception," *Izvestiya* (Moscow), July 6, 1988, morning edition, p. 4, trans. in *FBIS-SOV*, July 8, 1988, p. 1.

[23]Ibid., p. 2.

[24]OSIA Headquarters, *Portal Weekly Reports*, July/August 1988.

[25]*INF Treaty Memorandum of Agreement*.

[26]*New York Times*, September 26, 1988.

[27] OSIA Magna Detachment, *Magna Weekly Reports*, August/September, 1988.

[28]As paraphrased in Arnold, "Squeamish," *Boston Globe*.

[29]OSIA Headquarters, *Portal Weekly Reports*, January/June 1989.

[30]"On the Way to Strengthening Trust," *Leninski Put* (Votkinsk), June 14, 1989, trans. by OSIA, p. 5.

[31]Ibid.

[32]Ibid., p. 6.

[33]Ibid.

[34]Ibid.

[35]OSIA Headquarters, *Portal Weekly Reports*, July/October 1988. See also: Mark Grotelueschen (USAFA), "Portal Monitoring: The Monitoring of the Votkinsk Machine Plant for the On-Site Inspection Agency," *OSIA Research Internship Report*, July 1990.

[36]*Salt Lake Tribune*, October 12, 1988. See also: OSIA Magna Detachment, *Magna Weekly Reports*, March/April 1989.

[37]*INF Treaty Memorandum of Agreement*.

[38]OSIA Headquarters, *Portal Weekly Reports*, January/February, 1990. See also: Lt. Commander Roy Peterson (USN), OSIA Votkinsk Site Commander, "Sequence of Events Surrounding the Exit of Soviet 6-Axle Railcar," March 10, 1990.

[39]Peterson, "Sequence."

[40]ACDA, *Annual Report to Congress on Soviet Noncompliance with Arms Control Agreements*, February 15, 1991, pp. 13-14. See also: ACDA, *Supplemental Report to Congress on SS-23 Missiles in Eastern Europe*, September 18, 1991.

[41]Ibid., p. 13.

[42]U.S. State Department, *Press Release*, March 18, 1990 ACDA, *Annual Report to Congress on Soviet Noncompliance with Arms Control Agreements*, February 15, 1991, pp. 13-14.

[43]ACDA, *Noncompliance*, pp. 13-14.

[44]Ibid.

CHAPTER 6

INF ELIMINATION INSPECTIONS



In September 1988, the U.S. eliminated the first of 169 Pershing 1A missiles at Longhorn Army Ammunition Plant in Texas. Vice President George Bush, (right) observed the process with General Lajoie, Director OSIA, and Soviet Colonel Nikolai Shabalin.

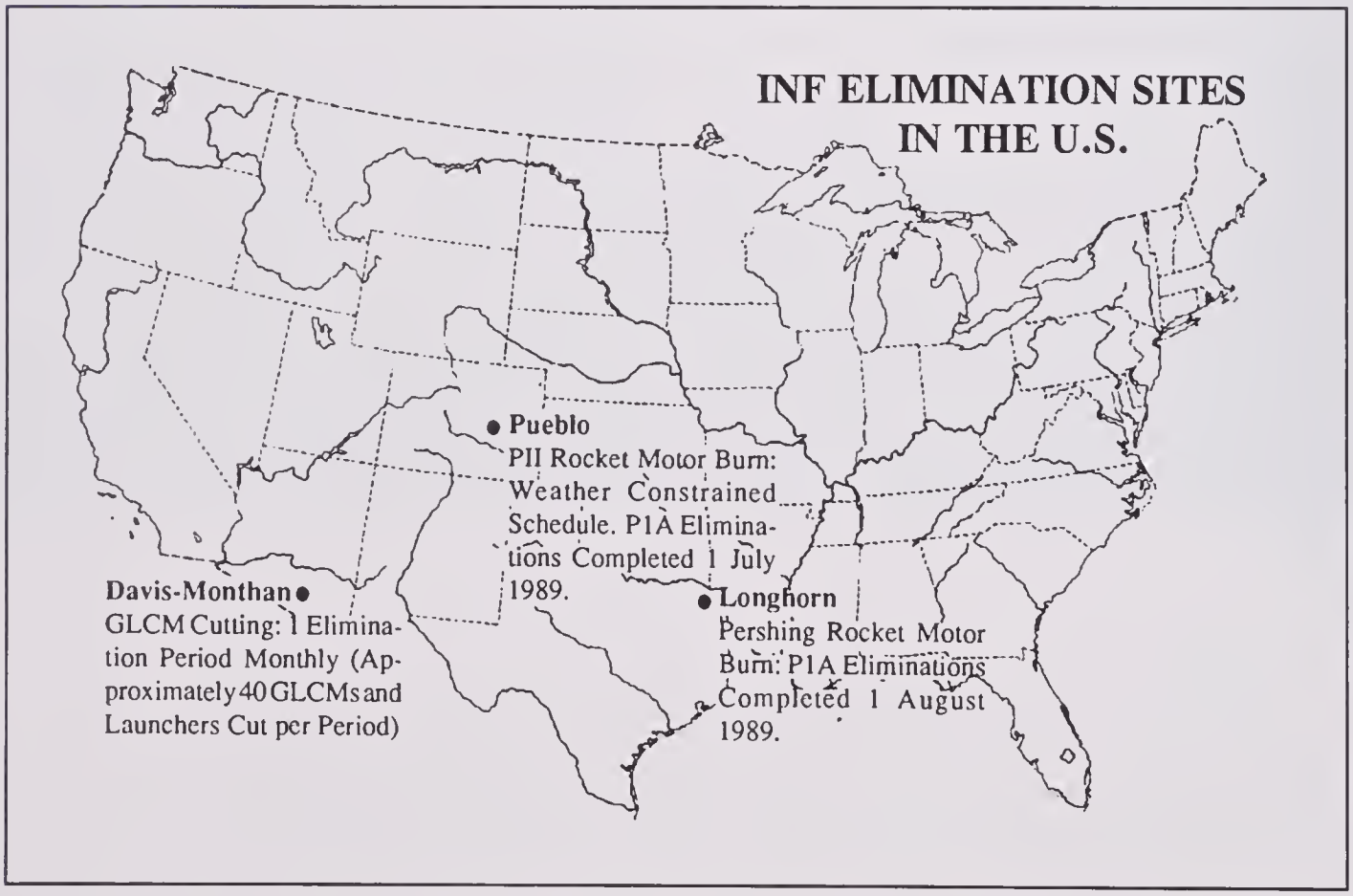
By mandating the elimination of U.S. and Soviet missiles, the INF Treaty marked a sharp break with previous arms control treaties. President Reagan noted this distinction in his remarks at the INF Treaty signing ceremony in the White House on December 8, 1987. Speaking to General Secretary Gorbachev and an audience of diplomats,

negotiators, and political leaders, the President began by noting that it had taken six years of negotiations to produce the treaty. Then he made a comparison: "Unlike treaties in the past, it didn't simply codify the status quo or a new arms buildup; it didn't simply talk of controlling an arms race. For the first time in history, the language of arms control was replaced by arms reduction—in this case, the complete elimination of an entire class of United States and Soviet nuclear missiles."[1]

Elimination Sites

When the treaty entered into force on June 1, 1988, the Soviet Union and the United States listed 12 elimination sites in the revised data exchange in the official Memorandum of Understanding. In the same document, they designated which missile system would be eliminated at each site.

The United States declared it would eliminate 846 INF missiles, as well as launchers and associated equipment. All were grouped into three major weapons systems: the Pershing II (234) and Pershing IA (169) owned and operated by the U.S. Army, and the BGM-109 GLCMs (443) of the U.S. Air Force. Once the treaty went into effect, the military services were responsible, upon receipt of appropriate orders, for removing the INF missiles and launchers from operational status, for transporting them to the elimination sites, and for conducting the actual eliminations. Four sites were used: three in the continental United States and one in West Germany. In the United States, the Longhorn Army Ammunition Plant in Marshall, Texas, would eliminate all Pershing IA and a portion of the Pershing II missile stages. The Pueblo Depot Activity in Pueblo, Colorado, was the site for eliminating the other portion of the Pershing II missiles and selected Pershing II launchers. In Europe, the elimination site was located at the U.S. Army's Equipment Maintenance Center at Hausen, West Germany. There,





Pershing II launchers would be eliminated. The Air Force selected Davis-Monthan Air Force Base in Tucson, Arizona, as the site for destroying its GLCM missiles and launchers. The Army and Air Force had to complete all eliminations within the deadlines set by the treaty: 18 months for the shorter-range missile systems and three years for the intermediate-range systems.[2]

The USSR declared it would eliminate 1,846 INF missiles. Eight sites were used, all within the Soviet Union. In the eastern USSR, two military bases, Kansk and Chita, served as elimination sites where a small number of SS-20 missiles were launched to destruction. The treaty permitted each party the right to destroy up to 100 missiles through launching. This activity had to be completed by December 1, 1988. Saryozek in the eastern Soviet Union served as the elimination site for SS-12 and SS-23 missiles. On the European side of the Ural Mountains, in the western USSR, five sites were used for eliminating INF missiles. At Kapustin Yar, SS-20 missiles would be destroyed though explosive demolition. At Stan'kovo, SS-12 and SS-23 transporter-erector-launcher (TEL) vehicles would be eliminated, while at Sarny, SS-20 (TEL) vehicles were scheduled for elimination. At Lesnaya, SS-4 and SS-5 missiles and components would be destroyed. At Jelgava, the nondeployed SSC-X-4 missiles and launchers would be destroyed.[3]

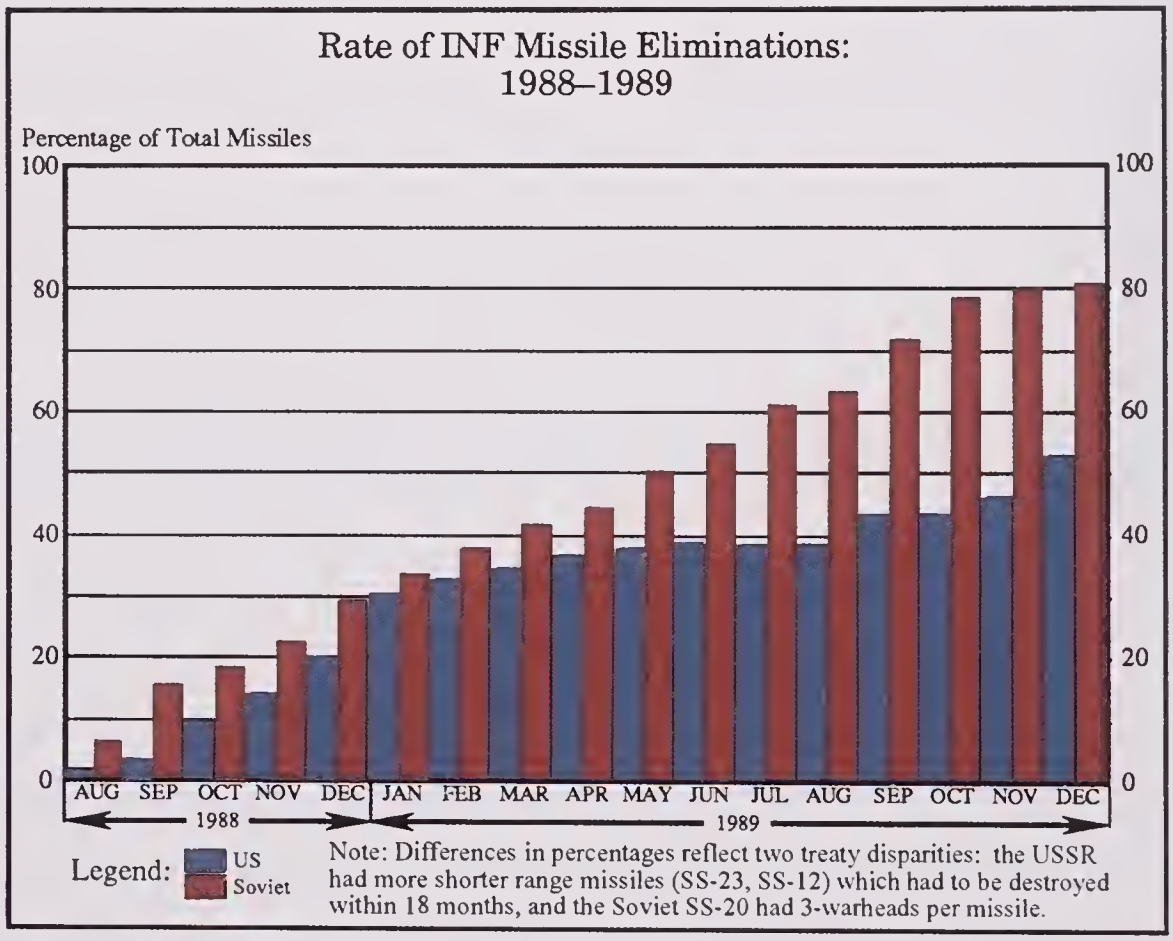
Elimination Schedules

The scheduling of missile eliminations was at the discretion, within the time lines prescribed in the treaty, of the respective governments. No missiles, launchers, or support equipment could be eliminated unless an inspection team was present to record and report on the destruction. The most significant of the treaty schedules were those mandating the elimination of the shorter-range missiles within 18 months and of the intermediate-range missiles in three years. Another important treaty provision addressed the unique INF problem of both parties' maintaining operational parity in



All INF missiles, launchers, and support equipment had to be eliminated in accordance with the treaty's protocol on eliminations. Here, Soviet soldiers are cutting the aft section, trunion block, of an SS-20 missile transporter-erector-launcher vehicle at the Sarny Elimination Facility, USSR.

the number of warheads. The SS-20 missile had three reentry vehicles, the Pershing II, one. To achieve parity in the final elimination months, treaty negotiators included a provision that, no later than the 29th treaty month, the number of deployed intermediate-range missile launchers should not exceed the number of launchers capable of carrying missiles with 171 warheads. This meant that the Soviet Union had to eliminate sufficient SS-20 missile launchers so that at the beginning of the 29th treaty month no more than 57 of the three-warheaded SS-20 missiles remained deployed.[4]

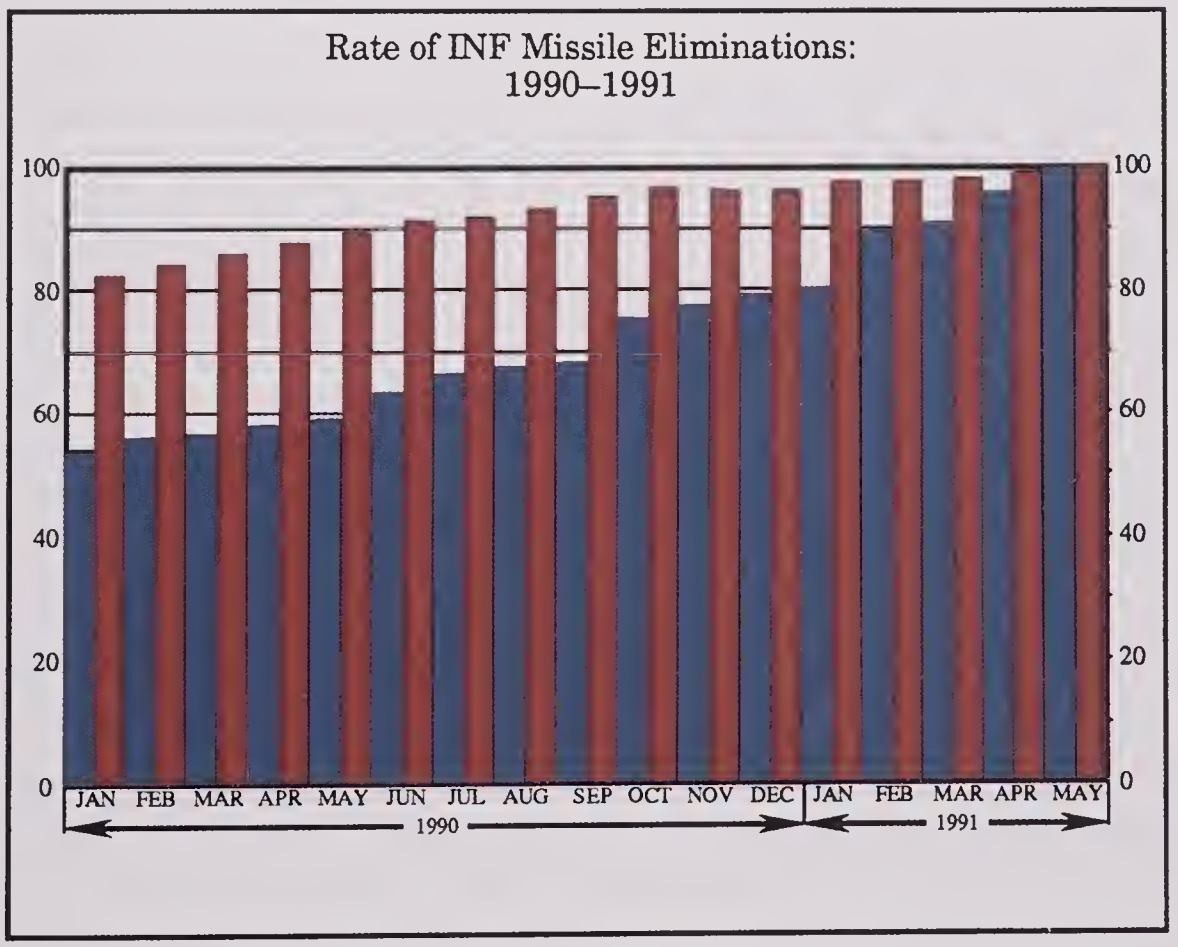


Another treaty requirement involved the time period for either party to exercise its right to destroy up to 100 of its missiles by launching them to destruction. The period was six months following entry into force. The Soviet Union exercised this treaty right; the United States did not. Within the first six months the Soviets launched 72 SS-20 missiles from Chita and Kansk. All of these launches were observed by American on-site inspection teams.[5]

For all scheduled eliminations of the INF missiles, launchers, and associated equipment, the treaty required that the inspecting party be notified 30 days in advance. This official notification was to contain the name and coordinates of the elimination facility and an estimated date for beginning the eliminations. Because the actual process had to be observed by on-site inspectors, the date became, in effect, the arrival date of the inspection team. The notification also contained an estimated date of completion. For its part, the inspecting party had to provide the inspected party with a 72-hour notice before arriving in the country. Once there, the inspectors would travel to the elimination site under escort and would remain there until the eliminations were completed.

Record of INF Eliminations

The purpose of the on-site elimination inspections was clearly defined in the treaty. Article 10, Paragraph 2, stated that "verification" by "on-site inspection" of the elimination of missile systems specified in the Protocol on Eliminations "shall be conducted" in accordance with the treaty and its protocols. The missile systems specified in that protocol included INF missiles, missile stages, front sections, launch canisters, launchers, missile transporter vehicles, missile erectors, launch stands, support structures, and propellant tanks.





Vice President George Bush observed the first Pershing 1A elimination on September 8, 1988 at the Longhorn Army Ammunition Plant in Marshall, Texas.



Crushing of Pershing 1A rocket motor casing.

U.S. missile eliminations began at the Longhorn Army Ammunition Plant in Marshall, Texas, on September 8, 1988.[6] Both nations had agreed that the initial missile eliminations could be witnessed by senior government officials, the public, and television and print media, provided the INF on-site inspectors were not interfered with in any way. A team of Soviet inspectors, with their American escorts, went to Texas the first week in September. The first American INF missile elimination attracted an audience of several hundred. On the morning of September 8, the Vice President of the United States, the Director of OSIA, other senior officials, and almost one hundred print and television journalists watched as a 12-man Soviet inspection team arrived at the Army Ammunition Plant destruction area and conducted their preliminary inspection of two Pershing IA missile stages. As the missile stages were bolted into the static test stands, the inspection team monitored the preparations leading to the rocket motor firing. Vice President George Bush, General Roland Lajoie, Colonel Nikolai Shabalin (the senior Soviet inspector at the site), and the journalists watched as the missile rocket motors were ignited in a roar of smoke and fire. Following the missiles' destruction, Vice President Bush spoke briefly, stating that, "This is the day we began to reverse the arms race."[7] In his comments, Colonel Shabalin explained the Soviet Union's motives for entering into the INF Treaty and concluded, "The world is by no means doomed to the nuclear arms race."[8]

Throughout September and into the fall of 1988, the United States continued eliminating Pershing IA missile stages in Texas. In October, eliminations of GLCM missiles, launch canisters, and launchers began at Davis-Monthan Air Force Base in Arizona.[9] Also in October, eliminations of Pershing II launchers got underway at Hausen, West Germany.[10] In December, eliminations started at the Pueblo Depot Activity in Colorado.[11] All U.S. eliminations were witnessed by Soviet on-site inspection teams.

According to the treaty, all shorter-range INF missiles had to be eliminated within the first 18 months. For the United States, every Pershing IA missile, training missile stage, and launcher had to be destroyed by November 30, 1989. On July 6, 1989, five months ahead of schedule, the last of the 169 Pershing IA missiles was eliminated at Longhorn Army Ammunition Plant in Texas. Edward J. Lacey, principal deputy director of OSIA, and General Major Vladimir I. Medvedev, director of the Soviet Nuclear Risk Reduction Center and senior on-site inspector for this elimination, observed the destruction of the last American Pershing IA missile.[12]

The next major elimination point for the United States came three years after the INF Treaty entered into force. By June 1, 1991, the United States had to eliminate all of its intermediate-range Pershing II and GLCM missiles. The pace, but not the progress, of eliminating these intermediate-range INF missiles varied because of operational and treaty considerations. Both the Pershing II and the GLCMs had been deployed in Western Europe in U.S. Army and U.S. Air Force combat units. The INF Treaty stipulated that when either party removed its intermediate-range missiles, launchers, and support equipment, it had to do so in "deployed operational units." For the United States, this meant that Pershing II batteries and GLCM flights had to be taken off operational status as a unit, prepared for transportation, and sent to the elimination sites. According to the treaty, all transits of missiles and associated equipment had to be completed within 25 days.



GLCM elimination.



Soviet inspector Viktor Bozhenkov examines a GLCM missile at Davis-Monthan Air Force Base, Arizona.

As a consequence of these operational and treaty considerations, the U.S. elimination schedule for intermediate-range missiles saw bursts of activity, followed by periods of inactivity and preparations for the next series of eliminations. The United States eliminated the following INF missiles during the first three treaty years.

U.S. INF Missile Eliminations[13]

	MOU Totals	1988-1989 Eliminated	1989-1990 Eliminated (cumulative)	1990-1991 Eliminated (cumulative)
Intermediate-range INF Missiles				
Pershing II	**234**	34	106	234
BGM-109 GLCM	**443**	130	220	443
Shorter-range INF Missiles				
Pershing 1A	**169**	169		

During the third treaty year, 1990-91, the United States conducted eliminations at each of the four sites: Longhorn Army Ammunition Plant in Texas, Pueblo Depot Activity in Colorado, Davis-Monthan AFB in Arizona, and the U.S. Army Equipment Maintenance Center at Hausen, West Germany. At each elimination, OSIA escort teams remained with the Soviet on-site inspectors throughout the entire scheduled elimination. Usually, the escort teams consisted of 10 or more people, all of whom were knowledgeable about the treaty and its protocols. Their responsibilities included treaty clarification, direct communications with the Soviet inspection team, and logistics associated with housing, feeding, and transporting the Soviet inspectors.



Soviet inspector reading weighing scales prior to Pershing II elimination at Longhorn, Texas.

By the end of the third treaty year, all of the U.S. and Soviet INF missile systems had to be eliminated. The final round of American eliminations began in Europe in mid-April 1991. By that time, the United States had eliminated 95.5 percent of its INF missiles and 95.9 percent of its INF treaty-limited items (launchers and support equipment). On April 16, at Hausen, the U.S. Army eliminated the final Pershing II launcher as a Soviet inspection team led by Colonel V.V. Yevdokimov monitored the destruction. Colonel Fred F. Grosick, USAF, led the American escort team. Dr. Joerg H. Menzel, the new principal deputy director of OSIA, served as a team member and was the senior U.S. government official at this final Pershing II launcher elimination in Europe.

Two weeks later, on May 1, 1991, the United States destroyed the last of its 443 U.S. Air Force ground-launched cruise missiles (GLCMs) at Davis-Monthan Air Force Base in Arizona. Colonel Anatoly Y. Samarin led the Soviet inspection team and Lt. Colonel Stephen B. Boyd, USAF, was the senior American escort. Because it was the final GLCM elimination, the final ceremony became a time of reflection.

ELIMINATING THE INF MISSILES

Lt. Colonel Stephen B. Boyd, USAF, was a senior American escort team leader who participated in more than 50 INF Treaty inspections. An experienced field grade officer, he had served in strategic missiles, missile maintenance,officer training, and tactical missiles, prior to his assignment as the deputy, then commander, of the On-Site Inspection Agency's San Francisco Field Office. Colonel Boyd and his staff had responsibility for escorting all Soviet INF inspection teams in the western United States from July 1988 through June 1992.



Soviet Colonel A.Y. Samarin with American Lt. Colonel Stephen Boyd.

On preparing for a Soviet INF inspection team: *"The treaty, obviously, was the pivot point for everything we do. In managing, it's best to set a certain reference point. Then management starts in earnest when we anticipate a Soviet inspection. For the eliminations, we knew a month in advance; that's when we in the field office went into high gear. I'd say that probably 75 percent of what I personally had to do was to take care of the logistical matters. We had to set up a secure area for billeting, establish a means for feeding the Soviet inspectors, and then plan out the entire movement of the team for what we anticipated would be a ten day (elimination) event."*

On the early days: *"We operated on promises.They (Travis Air Force Base officials) trusted us that we would pay them back. We got vehicles, for example. We would go down to the motor pool, and they would say, how many do you need? Vehicles are always a scarce commodity; yet they gave them up for the INF mission. We also got an entire block of VOQ rooms for six weeks for our TDY people. I was, frankly, surprised because most bases jealously guard their resources."*

On using military airlift: *"We kind of grew with the system. I don't know who did it, but someone set up a good liaison with the Military Airlift Command. Sometimes on the ground we'd anticipate the Soviet inspectors being there a short period of time (closeout inspections), but other times it could be a full 24-hour period (short-notice inspections). As it turned out, the Soviets spent almost 24 hours on each of the sites. The airlift has worked flawlessly."*

On the Soviet INF inspection teams: *"The Soviets, at least the ones that I have been in contact with, have been very diplomatic, rational, and logical. Let me tell you about two instances, both at Davis Monthan. In the first, the Soviets looked at several GLCM missile trainers, and they were of different configurations because they had slightly different training objectives. One of them had a fuel bladder that was used for fueling/defueling training; the others looked like standard missile trainers. The Soviet inspectors were concerned that we had different modifications, or different models of the GLCM missiles. They spent what I considered a considerable amount of time, an hour or so, discussing why these trainers were different in appearance. I explained, and the Air Force people on site explained to them, that the trainers had different training objectives within the same missile system."*

"On another occasion, there were several GLCM canisters which differed in appearance from the standard MOU photographs. These missiles had been deployed overseas. The ones the Air Force displayed for this inspection, at Davis-Monthan were 20 inches shorter. The Soviet inspectors were concerned because the missiles presented did not look like those in the pictures from the official Memorandum of Understanding. On both occasions, the Soviets did not accuse us of anything, nor did they imply that we were trying to pull anything over on them. They just simply asked what I considered to be very logical questions. I inferred from their questions what their concerns were, which was that the U.S. had more models of GLCM missiles than we had advertised. That was not the case. In their inspection report they did not address these differences as treaty ambiguities;they simply made notes in the report that not all of the trainers had the same configuration as stated in the Memorandum of Understanding."

Source: Interview, April 3, 1989



Demolition expert Joe MacDonald (r) prepares a Pershing II for destruction.

Soviet warrant officer cuts an SS-20 TEL at Sarny, USSR.





American technician cutting GLCM missile, Davis-Monthan, Arizona.



Soviet SS-12 missile explodes at Kapustin Yar, USSR.

Soviet and American inspectors and escorts discuss the final SS-20 elimination at Kapnstin Yar, USSR.





Soviet inspectors and American escorts jogging in the evening at Marshall, Texas.



Soviet Colonel Kuznetsov (c.) holds a child during a visit to a scout troop at Magna, Utah.



General Parker, Director, OSIA, prepares to offer a toast at a dinner at Kapustin Yar, USSR, in May 1991.

"We can now look forward to eliminating other nuclear weapons.... "

General Medvedev

Major General Robert W. Parker, USAF, who became the director of OSIA in January 1991, said that there had been 17 elimination inspections at Davis-Monthan, and "each has been successful...each complied with the treaty."[14] General Medvedev, Director of the USSR's Nuclear Risk Reduction Center, responded that the Soviet Union and the United States had eliminated an entire class of nuclear weapons. "We can now look forward," General Medvedev concluded, "to eliminating other nuclear weapons, and we have created a good premise for that."[15]

Five days after this final GLCM elimination in Arizona, the United States destroyed its last Pershing II missile stages in Texas on May 6, 1991. A large team of 18 Soviet inspectors flew into Washington, D.C., on Saturday, May 4. Led by Colonel V.V. Yevdokimov, the Soviet team was escorted to Texas by Major Freddie L. Price, USAF, and an experienced American INF escort team. Because this was the final American elimination of an INF missile system, a formal, public ceremony was held at the Longhorn Army Ammunition Plant. It was attended by several hundred people, including American and Soviet dignitaries, agency personnel, plant employees, soldiers from Pershing regiments, journalists, and the public. In his remarks just before the destruction of the final nine-ton Pershing II first-stage rocket motor, Ambassador Ronald F. Lehman, Director of the U.S. Arms Control and Disarmament Agency, said, "The INF treaty has set high standards for arms control achievement and has opened doors for the political changes necessary to address the causes rather than the symptoms of conflict."[16]



Ambassador Ronald F. Lehman, Director of the United States Arms Control and Disarmament Agency, threw the switch which ignited the final Pershing II rocket motor.

Speaking for the Soviet Union, General Medvedev predicted that the next major arms control treaty—the START Treaty, then in the final negotiating stages—would build upon the precedents established under the INF Treaty. "The tracks are already made," he concluded.[17] General Parker, the OSIA director, focused his remarks on the work of the on-site inspectors:

> *"Nearly three years ago, on the first of July 1988, the first U.S. inspectors landed in Moscow to begin the implementation of this treaty. Sixteen days later a group of Soviet inspectors arrived here at Longhorn, Texas, to conduct a baseline inventory of Pershing treaty-limited items....*
>
> *For the past 35 months, this process of inspector visits to sites halfway around the world has repeated itself over 600 times. Twenty-nine teams of Soviet inspectors came to Marshall, Texas, primarily to participate intimately in the INF countdown, to attest to their government that indeed the United States was eliminating these missile systems as promised.... Please remember that what we are witnessing is not just the passing of this noble weapon system, but also an important milestone in an historic agreement between the two most powerful nations on earth."*[18]



Major General Robert W. Parker, Director, On-Site Inspection Agency.

The Soviet Union's INF Treaty eliminations began at Kapustin Yar Missile Test Complex on July 22, 1988, with the elimination of an SS-20 missile.[19] Less than 10 days later, on August 1, the Soviets destroyed their first SS-12s at Saryozek.[20] In contrast to the United States, which used a static firing method, the Soviet Union eliminated the INF missiles at Kapustin Yar and Saryozek by explosion. By the end of the baseline inspection period on August 31, the Soviet government had begun elimina-tions at seven of its eight designated sites.[21] The reason for this concentrated activity had to do with the larger number of missiles the Soviet Union had to eliminate. Not only were they obligated by the treaty to destroy 1,000 more missiles than the United States (1,846 to 846), but they had to eliminate more than 900 shorter-range missiles within the first 18 months. At the Soviet elimination sites—Kansk, Chita, Kapustin Yar, Saryozek, Lesnaya, Stan'kovo, Sarny, and Jelgava—they destroyed the following missiles during the first two treaty years. U.S. on-site inspectors observed each elimination.

USSR INF Missile Eliminations[22]

	MOU Totals	1988-1989 Eliminated	1989-1990 Eliminated (cumulative)	1990-1991 Eliminated (cumulative)
Intermediate-range INF missiles				
SS-20	**654**	192	454	654
SS-4	**149**	149	149	149
SS-5	**6**	1	6	6
SSC-X-4	**80**	80	80	80
Shorter-range INF missiles				
SS-23	**239**	0	239	239
SS-12	**718**	600	718	718



American and Soviet teams at the last elimination of SS-4s at Lesnaya Elimination Facility, USSR, in May 1990.

The On-Site Inspection Agency sent 129 inspection teams to the Soviet Union to verify these eliminations from 1988 through 1991. They observed and recorded the destruction according to the treaty's protocols on eliminations. The pace was steady, with nearly continuous eliminations scheduled by Soviet officials during the first two years. Both of the Soviet shorter-range INF missile systems—the SS-23s and SS-12s with ranges from 500 to 1,000 kilometers—were eliminated in advance of the 18-month treaty deadline of November 30, 1989. On July 25, 1989, the last of 718 SS-12 missiles was destroyed at Saryozek, Kazakhstan.[23] The OSIA team of nine inspectors that observed this final destruction was led by Lt. Colonel Terry Corneil, U.S. Army. The final parts of the SS-23 missile system, the missiles and the launchers, were eliminated on October 27, 1989, at separate Soviet elimination sites. The final SS-23 launchers were eliminated at Stan'kovo, Byelorussia, with Lt. Colonel Thomas Brock, U.S. Army, leading the 10-person inspection team. The final SS-23 missile was destroyed at Saryozek, Kazakhstan, with Captain John Williams, U.S. Navy, serving as the chief of the American inspection team.[24]

As the treaty entered its third year, the Soviet Union had eliminated all of its shorter-range and most of its intermediate-range missiles, with the exception of the three-warhead, mobile SS-20 missile. The last of 6 SS-5 missiles had been destroyed on August 16, 1989, at the Lesnaya elimination site, and the last of 149 SS-4 missiles on May 22, 1990, also at Lesnaya.[25] One remaining SS-4 missile transporter vehicle was eliminated in October 1990. With only the SS-20 missiles remaining, six of the eight Soviet elimination sites were shut down. The remaining two, Sarny and Kapustin Yar, functioned as elimination sites for the SS-20s.

The last SS-20 missile elimination occurred at Kapustin Yar Missile Test Complex in southern USSR on May 12, 1991. The United States sent 20 of its most experienced inspectors, including OSIA Director General

Parker; Colonel Douglas Englund, chief of staff; Colonel Ronald Forest, director of operations; and Captain John Williams, chief of the Inspection Division. Captain Williams led the team. General Medvedev represented the Soviet Nuclear Risk Reduction Center, which had conducted all of the INF inspections and escorts for the USSR. Accompanying General Medvedev and his senior staff was General Colonel Alexander P. Volkov, First Deputy Commander in Chief of the Soviet Strategic Rocket Forces.[26]

"This road was not easy."

General Medvedev

At Kapustin Yar, the Soviet demolition crew began the final elimination by crushing two SS-20 front sections, including the instrumentation compartments and reentry vehicles. At approximately four o'clock in the afternoon, they detonated the final two SS-20 missiles before the small crowd of American inspectors, Soviet escorts, Soviet military observers, journalists, and television reporters. At the brief ceremony that followed, General Parker recounted that in the course of the previous three years, U.S. inspectors had carried out more than 400 on-site inspections of Soviet INF sites and missile systems, while the Soviets had conducted more than 230 inspections of U.S. facilities and missile systems. General Medvedev also complimented the inspectors and escorts, as well as the Soviet Strategic Rocket Forces, on their implementation of the INF Treaty." This road was not easy," Mevedev recalled. "We all remember what a political maelstrom existed around these missiles...in the 1980s. But the struggle for peace and common sense won." [27]



Major General Robert W. Parker, Director OSIA (c.) and Colonel Lawrence G. Kelley (r.) with a Soviet military journalist and a site escort officer at Kapustin Yar in May 1991.

With the destruction of these SS-20 missiles, there remained only the elimination of SS-20 launchers and missile transporter vehicles to complete the Soviet Union's obligation to eliminate its 1,846 INF missiles and systems. That occurred at Sarny on May 28, 1991. Lt. Colonel Corneil, the American team chief, signed the INF inspection report certifying that the last launchers and vehicles had been eliminated.

Summing Up

For both the United States and the Soviet Union, the conduct of the INF Treaty eliminations constituted deployment of the largest number of inspectors and escorts. In the first three treaty years, 129 OSIA on-site inspection teams and 64 OSIA escort teams participated in elimination inspections. Counting all types of inspections, the OSIA teams were involved in more than 600 inspections and escorts in the three treaty years from 1988 to 1991. In carrying out these inspections, the team chiefs, deputies, linguists, and team members validated the on-site inspection concepts and procedures associated with a detailed nuclear arms reduction treaty. Their experiences would be a valuable asset as the United States, the Soviet Union, and the European nations turned to newer and larger negotiated conventional and nuclear arms reduction treaties.



The Soviet Union declared 654 SS-20 missiles. These two instrument compartments and warhead sections were destroyed on May 13, 1991, at Kapustin Yar, USSR, in the presence of American INF inspectors.

NOTES: CHAPTER 6

[1]"Soviet Union-United States Summit in Washington, DC," *Weekly Presidential Documents* (Washington, D.C.: Office of the Federal Register, December 8, 1987), Vol. 23, pp. 1457-1458.

[2]*INF Treaty Memorandum of Understanding Data Update*. See also: U.S. Army Missile Command, *Report: Pershing Weapons Systems, Lessons Learned, INF Treaty Retrograde/Elimination* (Huntsville: Colsa, Inc., July 2, 1990).

[3]Ibid.

[4]Senate Committee on Foreign Relations, *Treaty Document 100-11*.

[5]SIPRI, *SIPRI Yearbook 1990: World Armaments and Disarmament* (Oxford: Oxford University Press, 1990), p. 449.

[6]Peter Applebome, "First US Missiles Destroyed at Part of Nuclear Treaty With Soviets," *New York Times*, September 9, 1988, p. A13. See also: *Marshall News Messenger*, September 8, 1988; Mary T. Schmich, "US Begins Destroying Missiles," *Chicago Tribune*, September 9, 1988, pp. 1-2; Carl P. Leubsdorf, "Destruction in the Cause of Peace: Missile Crushing Begins," *Dallas Morning News*, September 9, 1988, pp. 1, 10A; John W. Mashek, "Bush On Hand for Scrapping of Missiles," *Washington Post*, September 9, 1988.

[7]Ibid.

[8]Ibid.

[9]*Arizona Republic*, October 19, 1988. See also: *Arizona Daily Star*, October 19, 1988.

[10]U.S. Army Missile Command, *Pershing Weapons Systems*, pp. 15, 31. See also: *Das Bild* (Frankfurt), October 20, 1988.

[11]Ibid., pp. 11, 31. See also: "Soviets Oversee 'Real Disarmament' in Pueblo," *Salt Lake Tribune*, December 8, 1988, p. A3.

[12]"Last Pershing Missile to Be Destroyed Today," *Washington Times*, July 6, 1989. See also: "Army Destroys Last Pershing 1A as Soviets Watch," *Baltimore Sun*, July 7, 1989, p. 12; Dan Shomon, Jr., "Last Pershing 1A is Destroyed," *Dallas Morning News*, July 7, 1989, p. 17A.

[13]OSIA Office of Public Affairs, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, May 31, 1989, and July 2, 1990.

[14]Dee Ralles, "Last Land-Fired Cruise Missile Destroyed at Davis-Monthan," *Arizona Republic*, May 2, 1991.

[15]Ibid.

[16]"Longhorn Burns Last Pershing II," *Shreveport Times* (Louisiana), May 7, 1991.

[17]"US Destroys Its Last Pershing II Missile," *Dallas Morning News*, May 7, 1991, p. 30A.

[18]From the speech notes of Major General Robert W. Parker (USAF), Director OSIA, at Longhorn Army Ammunition Plant, May 6, 1991.

[19]"US Inspectors See SS-20 Missile Destroyed," *TASS*, July 22, 1988, trans. in *FBIS-SOV*, July 25, 1988.

[20]"Soviets Begin Destroying Missiles as Inspectors Watch," *Los Angeles Times*, August 2, 1988, p. 8.

[21]Briefing by the Director of OSIA to the Secretary of Defense, November 16, 1988.

[22]OSIA Headquarters, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, July 2, 1990.

[23]OSIA Office of Public Affairs, *On-Sight Insights*, August 1989. See also: *TASS* (Moscow), July 26, 1989.

[24]"Last SS-23 Missile Eliminated at Saryozek," *TASS* (Moscow), October 27, 1989, rpt. in *FBIS-SOV*. October 27, 1989, p. 1. See also: Office of the Secretary of Defense, "US Inspectors Witness Last SS-23s Elimination," *News Release*, October 27, 1989.

[25]*TASS* (Moscow), August 16, 1988; See also: Viktor Litovkin, "Last R-12 Missile Destroyed Under INF Treaty," *Izvestiya*, May 24, 1990, trans. in *FBIS-SOV*, May 31, 1990, p. 1.

[26]Associated Press (Moscow), May 12, 1991. See also: Reuters (Moscow), May 12, 1991; *Pravda*, May 20, 1991; *Moscow Central Television*, June 4, 1991, trans. in *FBIS-SOV*, June 5, 1991.

[27]"Soviets Destroy Last Intermediate-Range Nuclear Missiles," *Christian Science Monitor*, May 14, 1991, p. 5.

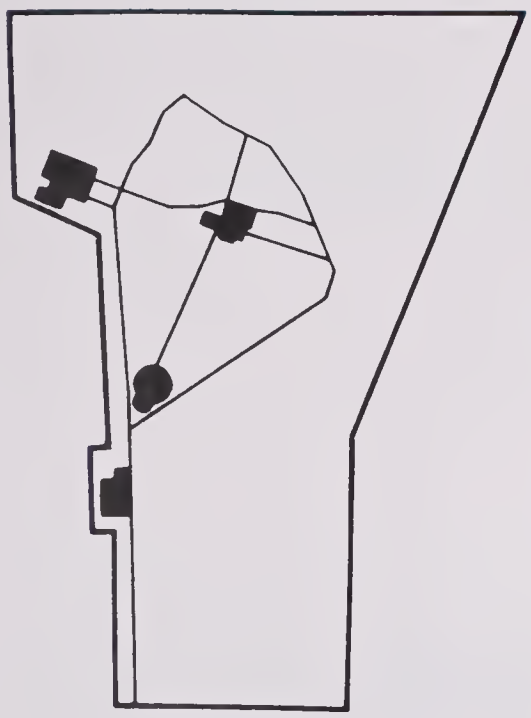
CHAPTER 7

INF CLOSEOUT INSPECTIONS



The last act in this closeout inspection of the U.S. Army's Redstone Arsenal was the signing of the inspection reports. Here American Colonel Ronald P. Forest and Soviet Colonel Vladimir A. Akimenkov prepare to sign the report flanked by their interpreters.

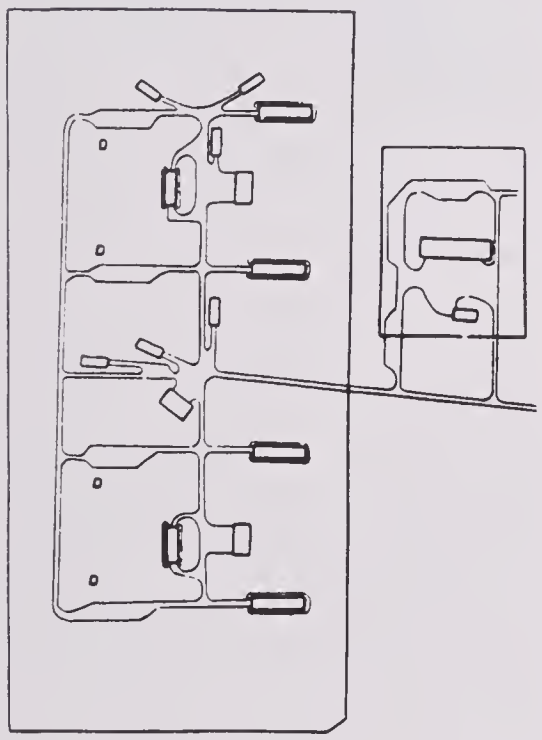
Conceptually, it is useful to think of the INF Treaty's five types of on-site inspections as a series of treaty "rights" which unfolded in a sequence. These inspections, together with the scheduled elimination of nearly 2,700 missiles, constituted the heart of the treaty. The first type, baseline inspections, began on July 1, 1988. For 60 days, INF inspectors confirmed, on site, the number and location of missile systems



Test Range, Cape Canaveral, Florida. Closed out August 4, 1988.

and sites that had been declared in the Memorandum of Understanding and the Data Update. In the second type of inspection, which also began on July 1, 1988, resident INF inspectors initiated continuous portal monitoring inspections at one former missile final assembly facility in each nation. In the third type, elimination inspections, INF inspectors observed the destruction of missiles, launchers, and support equipment at designated elimination sites. These missile eliminations began on July 22, 1988, at Kapustin Yar in the Soviet Union and on September 8, 1988, at Marshall, Texas.

The fourth type, closeout inspections, gave the inspecting party the treaty right, after being officially notified that a missile site had been eliminated, to send inspectors to observe the status of the missile operating base, support facility, or launcher production facility. If the inspecting party chose not to exercise its right to conduct a closeout inspection, the site was considered closed after 60 days had elapsed from the time of the elimination. Both the United States and the Soviet Union exercised their treaty rights and conducted inspections of every announced closed site. Most declarations fell into the period after baseline and before the final eliminations that came at the end of the third treaty year—May 31, 1991. In a few instances, however, the inspected party declared that the INF missiles and associated equipment had been removed and all INF activity had ceased prior to July 1, 1988, the start of the initial baseline period. In those cases, the treaty stipulated that the inspecting party had the right to conduct one inspection, which would constitute both a baseline and a closeout inspection of the site.



Missile Operating Base, Zasimovichi USSR. Closed out June 25, 1990.

In all cases, the treaty stipulated explicit procedures for closing out a missile site. Thirty days in advance, the inspected party had to declare its intention to close or eliminate the INF missile operating base or missile support facility. To close the site it had to meet three conditions. First, it had to remove all INF missiles, launchers, and associated equipment from the site. Second, it had to eliminate, through dismantling or destruction, the INF missile support facilities, such as missile or launcher structures, and launch pads. Finally, it had to cease all activity relating to production, flight-testing, training, repair, storage, or deployment of INF missile systems. The site could be converted to another purpose; the treaty only restricted use of the site from any future activity associated with any INF missile system. Once these conditions had been met and the inspecting party officially notified, the missile site or facility was considered under the treaty to be closed out after 60 days had elapsed or after the site had been subjected to a closeout inspection.[1]

The fifth type of on-site inspection was called "short-notice." Short-notice inspections worked within a quota system—20 per year allowed during the first three treaty years, 15 per year for the next five treaty years, and 10 per year for the last five years. Their function was to give the inspecting party the right to inspect any INF site, active or closed, to ascertain the declared status of the site. These short-notice inspections placed all of the Soviet and American INF sites "at risk" to be inspected at any time, within the quota limits. The inspection teams were limited to 10 inspectors and they had 24 hours to conduct the inspection.[2]

Initial American Closeout Inspections

The Soviet Union declared 130 INF sites, all of which had to be closed out under the provisions of the treaty within three years. By comparison, the United States declared only 31 INF sites. There were two reasons for this significant disparity. First, the Soviet Union agreed in the INF Treaty to eliminate 1,846 missiles, the United States, 846. One thousand more Soviet missiles meant that there were simply more sites—missile operating bases, production facilities, flight-testing areas, training sites, repair depots, and storage facilities—associated with the USSR's INF missile systems than with those of the United States. Second, the two nations had different political constraints for deploying missile systems. The United States deployed its missiles on a few, centralized bases in Western Europe, while the USSR used many smaller, more dispersed missile operating bases. Thus, the disparity in the number of sites—130 Soviet to 31 American—reflected differences in treaty missile numbers and deployment strategies.



The Zasimovichi Missile Operating Base was closed out in June 1990. These American inspectors and their Soviet escorts are standing on the rubble of a detonated missile launch pad.

The initial closeout inspections began during the baseline period—July 1 to August 29, 1988. Before that, both the United States and the Soviet Union had prepared several INF sites for elimination. When the INF Treaty officially entered into force on June 1, 1988, these sites were listed in the Data Update to the Memorandum of Understanding as having no missiles or associated treaty-limited items. According to the treaty, this listing constituted notification that the sites had been "closed out." To confirm that

condition, the inspecting party had the right to examine the site during one of its baseline inspections. Thus, in this instance, a baseline inspection was also a closeout inspection. Both the United States and the USSR, in every instance, deployed an inspection team to inspect these sites.

INF Sites in the Western Soviet Union



On July 17, Lt. Colonel Paul H. Nelson, U.S. Army, led an American inspection team to the industrial city of Sverdlovsk, where they conducted an INF baseline/closeout inspection of the Experimental Plant of the Amalgamated Production Works of the M.I. Kalinin Machine Building Plant. This plant formerly had produced SSC-X-4 missile launchers; the Soviet Union had listed the plant in the MOU, but had not included any data in the initial data exchange. By deduction, this meant that the Soviet government had declared officially that all production of INF missile launchers had ceased at the plant. Colonel Nelson's 10-person team inspected the plant, signed the inspection reports, and met briefly with reporters. An interviewer with Vremya, the Moscow-based national television news program, asked E.I. Krayniy, plant engineer, about the American INF inspection. "The U.S. inspectors," he replied, "carried out an inspection of the territory and the installations of the experimental works.... All conditions of the treaty have been complied with."[3]

"It gives us pleasure to see that our professional ties with the USSR are developing."

Lt. Colonel Nelson

Colonel Nelson then spoke to Vremya: "I am pleased to be here today, to have inspected the Sverdlovsk launcher production facility.... It gives us pleasure to see that our professional ties with the USSR are developing."[4] In a separate interview, Nelson told a *TASS* reporter, "Under the Treaty, I do not have the right to comment on the results of the inspection, but I am satisfied with the cooperation of the Soviet side. All those we worked with are good professionals."[5] After these brief interviews, the 10-person American team departed, returning to Moscow and then to OSIA European Field Office in Frankfurt.

One week later, on July 21, Colonel Edward H. Cabaniss, U.S. Army, led an American INF inspection team to Petropavlovsk in Kazakhstan, approximately 2,000 kilometers east of Moscow. Petropavlovsk was the location of the V.I. Lenin Heavy Machine Building Plant, where the American team conducted a closeout inspection of the former SS-23 missile launcher production facility. Following the inspection and signing of the reports, the Americans were given a brief tour of the city. There, a *TASS* reporter asked Colonel Cabaniss about the INF inspection. "The American inspectors," he replied, "had been given a chance of visiting all places they thought it was necessary to visit, and of seeing everything they wanted to see." He thought that there was a "mutual understanding" with the Soviet side on the conduct of the inspection.[6]

That same day, July 21, more than 3,800 kilometers to the west, Lt. Colonel Lawrence G. Kelley, USMC, led a 10-person American INF team to Prague, Czechoslovakia. Prague's Ruzyne International Airport was a treaty-designated point of entry. The U.S. inspection team was in Czechoslovakia to conduct a closeout inspection of the Soviet SS-12 missile operating base at Hranice in northern Moravia. The Czechoslovakian CTK news service reported that, the SS-12 missiles had been withdrawn in March 1988 and sent to elimination sites in the Soviet Union.[7] At the airport, Colonel Kelley and his team were met by Colonel Ivan Y. Abrosimov, chief of the Soviet INF escort team for this inspection. Following introductions to the Soviet escort team and representatives of the Czechoslovakian Ministry of Foreign Affairs and Ministry of Defense and the Soviet Central Group of Forces, Colonel Kelley spoke to a Prague television reporter. "We are coming to carry out a basic inspection of the Soviet missile base on Czechoslovak territory. We are coming to verify whether or not certain

INF Sites in Eastern Europe



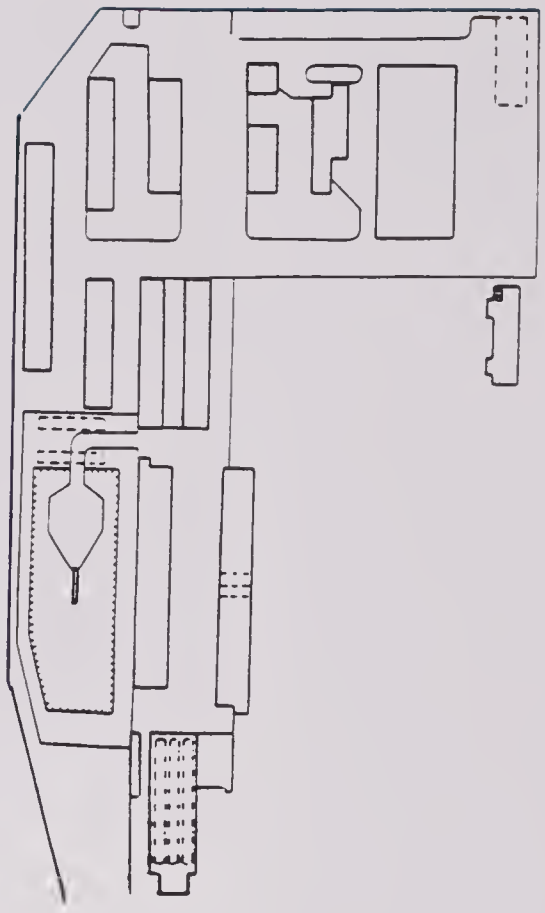
pieces of equipment, liable to the treaty, remain deployed at this base."[8] After these brief courtesies, the American inspection team and their Soviet and Czech escorts departed by bus for Moravia and the INF missile operating base.

At Hranice, the inspection commenced shortly after the team's arrival. A reporter from the *RUDE PRAVO* newspaper in Prague recorded his observations of the inspection:

> *The American group began its inspection work in Hranice at 1500. The inspectors checked the Hranice military barracks, including the vehicle pool and the training area. They had the opportunity to inspect in detail individual buildings, which formerly served the Soviet missile unit, and*

places where there used to be equipment for the training of Soviet soldiers. They also made random checks on vehicles and further equipment belonging to the unit of the Czechoslovak People's Army which has taken over Hranice barracks.... The inspectors then moved into the military area to one of the former combat positions. There they were able to convince themselves that all military materiel which is subject to elimination under the Soviet-American treaty was no longer there.[9]

When the inspection was completed, the INF inspectors and their escorts returned to Prague; once again they were interviewed by television and newspaper reporters. Colonel Abrosimov commented on the inspection, the treaty, and Czechoslovakia's role. "Czechoslovakia completely fulfilled all commitments resulting for it from the adopted documents."[10] The Soviet Union had negotiated separate diplomatic agreements with both Czechoslovakia and the German Democratic Republic, where Soviet INF missile units had been based. Colonel Kelley was also asked about the results of the inspection. "Appropriate conclusions had been drawn,"[11] but he was not authorized to make the results public. He stated that his group's activity was in "complete harmony" with the provisions of the treaty. He, too, acknowledged Czechoslovakia's role in assisting with the transportation and arrangements for the inspection.



Missile Operating Base Hranice, Czechoslovakia.

These were 3 of 16 closeout inspections conducted by American INF inspection teams during the baseline period, July through August 1988. In the same two weeks, U.S. inspection teams completed 114 INF baseline inspections of 79 Soviet INF missile operating bases, 19 missile storage facilities, 6 training facilities, 2 test ranges, 12 repair facilities, 3 launcher production plant, and 8 elimination sites. The United States also instituted—on July 2, 1988—its continuous portal monitoring inspections at the former SS-20 assembly plant at Votkinsk. The Votkinsk missile final assembly facility was one of three declared in the Soviet's treaty memorandum of understanding. Although these facilities were listed in the treaty, they were designated as "noninspectable" sites. Also during baseline, the United States began sending on-site inspection teams to monitor the elimination of the Soviet INF missiles and support systems. Thus, during the initial baseline phase, there were four types of on-site inspections underway in the Soviet Union.

Initial Soviet Closeout Inspections

Soviet INF inspectors during baseline conducted closeout inspections at five U.S. missile sites and facilities. All five sites—Dugway Proving Grounds in Utah; Air Force Plant 19 in California; Missile Test Range Complex 16 at Cape Canaveral, Florida; the Martin Marietta Launcher Production Facility in Middle River, Maryland; and Woensdrecht Missile Operating Base in the Netherlands—had been listed in the MOU of June 1, 1988, as having no INF Treaty-limited items. This meant that June 1 was the closeout notification date for these sites. A baseline inspection by a Soviet team would also constitute a closeout inspection.

"Czechoslovakia completely fulfilled all of its commitments....."

Colonel Ivan Y. Abrosimov

The Soviet Union's first two closeout inspections occurred at Dugway Proving Grounds, a former test range for the ground-launched cruise missiles (GLCMs), and at Air Force Plant 19, a former production plant for

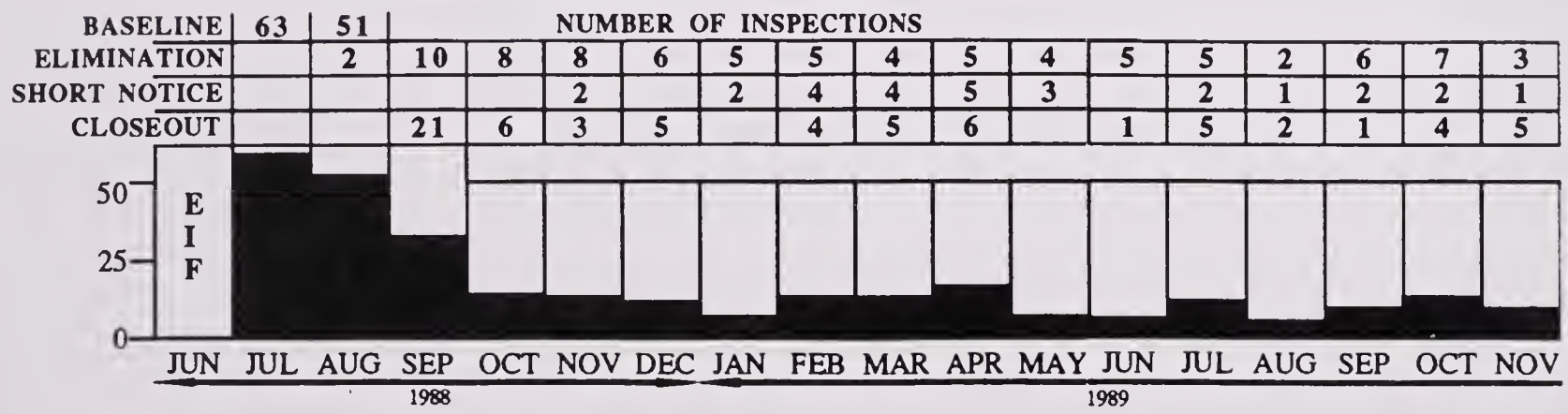


At the USAF Plant 19 in San Diego, Soviet inspectors watch as a plant escort (c.) diagrams the inspectable area inside the former GLCM launcher production facility.

GLCM launchers. Both inspections occurred on the same day, July 3. The 24-hour on-site inspections went according to schedule, with the two Soviet teams making their declaration of the sites to be inspected at Travis Air Force Base, California, the point of entry for INF sites in the western half of the United States. Lt. Colonel Claesen D. Wyckoff, U.S. Army, served as the senior escort for the Soviet INF team inspecting the Dugway Proving Grounds; Lt. Colonel Robert Yablonski, USAF, led the American team escorting the Soviet team to Plant 19. Both teams flew to the site via USAF military transport aircraft; each group of Soviet inspectors was taken to the site within the nine hours stipulated in the treaty. The inspections themselves lasted for 24 hours and were followed by the signing of the inspection reports. On July 3, both Soviet teams and their American escorts returned to Travis, where the Soviets prepared for departure to the USSR.

On August 4, Colonel Gennadiy I. Solntse led a Soviet on-site inspection team to Cape Canaveral, Florida, for a baseline and closeout inspection.

Monthly Record of U.S. Inspections, 1989-1991

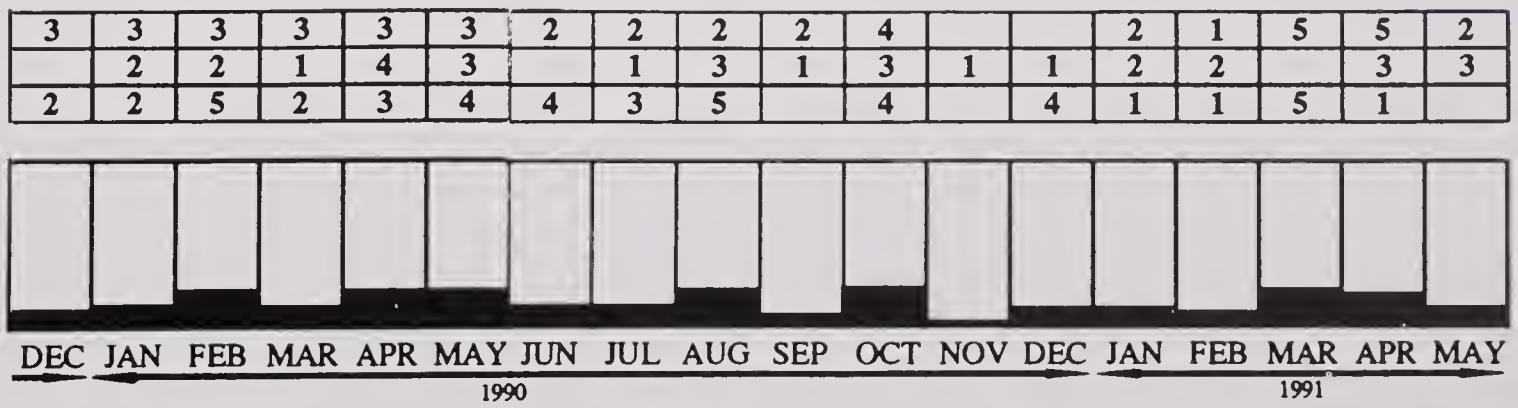




This Soviet inspection began with both inspectors and escorts walking around the entire perimeter of the buildings and inspectable area. The site was the Martin Marietta plant in Middle River, Maryland. Formerly, Pershing I launchers had been produced at the plant.

Accompanying the Soviet inspectors was an American escort team led by Colonel Wyckoff. Cape Canaveral had been the test site for the Pershing II missiles; the Soviet inspection team was limited to inspecting the former launch complex, the missile assembly buildings, and the access road that connected them. The Soviet inspectors conducted their inspection, signed and exchanged the reports, all within the 24-hour time allotted in the treaty.[12]

One thousand miles north of Cape Canaveral, on the same day, another Soviet inspection team conducted an inspection of the former Pershing I launcher production facility at Middle River, Maryland. Colonel Anatoly S. Chentsov led the Soviet inspection team, while Captain Albert E. Graham, U.S. Navy Reserve, served as the senior American escort team leader. Newspaper reports indicated that, throughout the inspection, security was "tight."[13] Plant officials had prepared for this event by conducting mock inspections in the months before the Soviet team's arrival. They had conducted security and treaty briefings for the more than 4,000 employees working at the site. Once the inspection was completed, the Soviet and American INF teams signed and exchanged the official treaty reports. The Soviet inspection team returned to Washington, D.C., the point of entry, where they prepared for their departure for Moscow.[14]



These initial Soviet closeout inspections occurred simultaneously with the baseline inspections being conducted at the 31 U.S. INF sites in Western Europe and the United States. During July and August 1988, Soviet inspection teams went to each of these sites and conducted baseline inspections. In addition, Soviet INF inspectors were establishing their continuous portal monitoring of the Hercules Plant No. 1 at Magna, Utah. Just as the U.S. INF inspection activity was at its peak in the summer of 1988, so too was the Soviet Union's.

The number of initial INF closeout inspections equaled the number of INF missile sites declared closed out. In the June 1, 1988, Memorandum of Understanding, the USSR declared that there were no INF missiles, support systems, or activity at 16 sites; the United States conducted 16 closeout inspections. The United States notified the Soviet Union that five American INF sites had been closed out; the Soviet Union sent five on-site inspection teams to ascertain the status of these sites.

Routine Closeout Inspections

Following the baseline period, declarations of INF missile sites as closed out became an important gauge of treaty progress, especially in the early months. In the Memorandum of Understanding, the Soviet Union had

INF Sites in Central and Eastern Soviet Union



declared 957 shorter-range INF missiles; these had to be eliminated within 18 months.[15] The United States had identified 169 shorter-range INF missiles that would have to be eliminated in the same time period. Routine, steady missile eliminations signaled adherence to the treaty; so too did a steady rate of notifications of missile sites being closed out. The first stage in closing out a missile operating base was the movement of the INF missiles from the base to the elimination sites. This movement required 30 days' advance notice via the NRRC message system to the inspecting party. The transit of the INF missiles had to be completed within 25 days.[16] When all of the missiles had been moved, the operating base's missile support structure dismantled or destroyed, and all INF missile system activity ceased, then the inspected party could declare, through an NRRC message, that the base had been closed out.



Soviet Major Igor Kirichenko and Lt. Colonel Nicholas Troyan at Saryozek, USSR.

Dismantling the Soviet INF missile base at Novosysoyevka was typical. Located near the Sikote-Alin mountain range in the Soviet province bordering the Pacific Ocean, Novosysoyevka was an SS-12 base. On July 1, 1988, a train loaded with 14 SS-12 launchers and 4 missile transporter vehicles left Novosysoyevka station, bound for the elimination site at Stan'kovo in Belorussia.[17] The United States had been notified by official message through the Soviet NRRC of the time and places of the 7,200-kilometer journey across virtually the entire Soviet Union. On the same day, another missile train left the small station at Novosysoyevka, laden with 20 SS-12 missiles. It would arrive, after a trip of 4,200 kilometers, at the Saryozek elimination site in Kazakhstan. On July 4, a reporter from *Sotsialisticheskaya Industriya* visited the Novosysoyevka SS-12 base and asked Major A. Kostitsyn, the battery commander, about dismantling the site.[18] "Throughout June," Kostitsyn replied, "we prepared the equipment for dispatch, for it has to cross the entire country. We missilemen have complex feelings." He explained his thoughts on dismantling operational missiles and the pride he had for his nation, which had negotiated the treaty. However, he also had concerns about his future. "Our service and life are changing. It is now my dream to enter an academy. I am a professional soldier, and I believe that I can still prove useful to the motherland in that capacity."

The remaining 17 SS-12 missiles at the Soviet missile operating base departed Novosysoyevka within a week. The site commander, Colonel Viktor Korshikov, told an *Izvestiya* reporter that he would remain at the missile base and become the chief site escort. "We are ready for the meeting," he said on July 5, adding, "The Americans will not find the missiles here...."[19] The command was prepared, he went on, to show everything stipulated in the treaty. The reporter accompanied Colonel Korshikov into the missile buildings, examining the trucks stored under canopies, looking at the pit machines and track layers. The colonel explained what equipment the American inspectors could examine.[20]

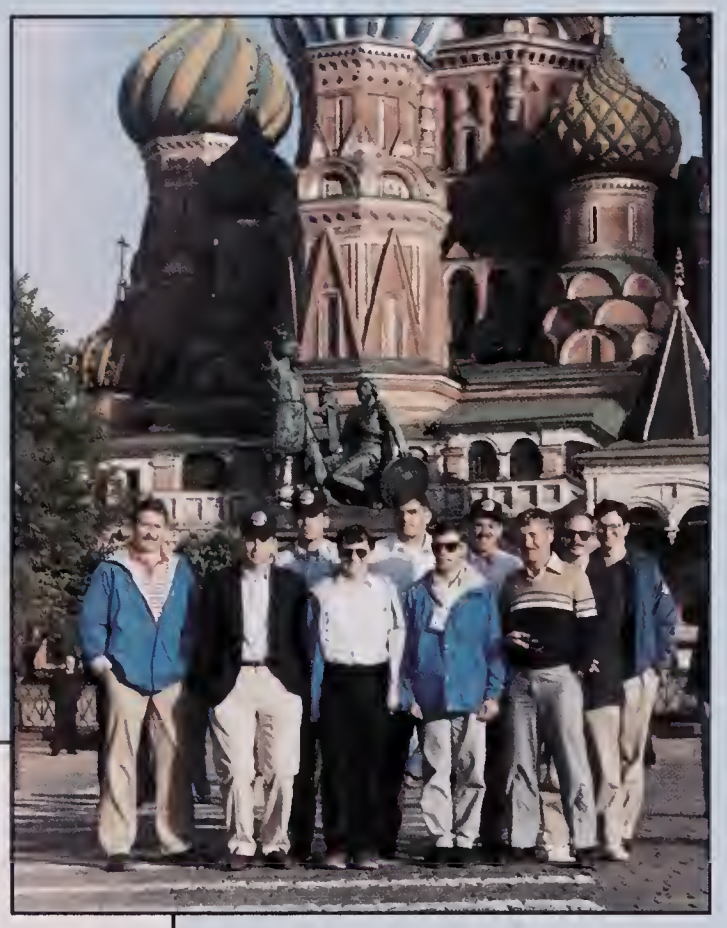
"We are ready for the meeting."

Colonel Korshikov

On October 1, Lt. Colonel Nicholas Troyan, U.S. Army, led an American INF inspection team to the Novosysoyevka SS-12 missile site where they conducted the closeout inspection. The inspection lasted 24 hours on site; however, the logistics needed to get this American inspection team to and from the site illustrated how difficult and arduous these INF inspections could be. In mid-August, Troyan's 10-person inspection team met in Washington, flew to San Francisco and then to Tokyo.[21]

American teams in the USSR

Team Nelson at Saint Basil's Cathederal in Red Sqnare.





Team Troyan in Kazakhstan at the joining of the Siberian-Turkistan Railroad.



U.S. Team at the Tsars' Cannon in the Kremlin.

Soviet teams in Washington



General Medvedev (c.) and team at the U.S. Capitol.



In the U.S. Capitol Rotunda.



In the Old Senate Gallery, U.S. Capitol.

From Tokyo, they went to Yokota Air Base, site of OSIA's gateway office, where they rested after the initial 10,880-kilometer leg of the journey. After final mission preparations, the team flew 3,000 kilometers on a USAF C-141 aircraft from Yokota to Ulan-Ude, the treaty's eastern point of entry into the USSR. Ulan-Ude is a city of 370,000 people near Lake Baikal. When the American team arrived they were met by Captain James Connell, U.S. Navy Reserve, who was the OSIA representative.[22] Fluent in Russian and knowledgable about the INF Treaty, Captain Connell assisted the American inspectors and aircrew members with meals and hotel accommodations in Ulan-Ude. One day after arriving, Colonel Troyan's team, accompanied by a Soviet escort team, boarded an Aeroflot aircraft for the 2,400-kilometer flight to Alma Ata in Kazakhstan, where they were transported by bus to the Soviet elimination site at Saryozek.[23]

After approximately two weeks of monitoring the elimination of SS-12 missiles at Saryozek, Troyan's inspection team returned to Ulan-Ude and then departed immediately for Kansk, a Soviet SS-20 elimination site located approximately 1,100 kilometers to the north, in central Siberia. After two weeks of monitoring the launch-to-destruction of SS-20 missiles and another trip to Ulan-Ude, the team was directed to go to Novosysoyevka for the closeout inspection. Accompanied by their Soviet escorts, the travel-weary American team flew east 2,120 kilometers to Vladivostok in the Pacific maritime province. The American inspection team then went by bus again along the valley of the Sikote-Alin Mountains and back through



In accordance with the INF Treaty, every on-site inspection began with a pre-inspection briefing. Here two Soviet escort officers examine the briefing materials which included site diagrams, local safety problems, and a statement of the INF missiles or equipment at that site.

a dense deciduous forest to the former Soviet SS-12 missile base at Novosysoyevka. There they conducted their on-site closeout inspection. Once the treaty inspection reports had been signed and exchanged, the American team began its long trip home. In all, by the time they returned to Washington, Colonel Troyan and his team members had traveled more than 37,000 kilometers, or 23,000 miles, in five weeks.[24]

The logistics of scheduling, transporting, housing, feeding, equipping, and supporting this and other INF inspection teams and the aircrews was a major effort for both the U.S. and the Soviet on-site inspection agencies. Both nations needed an extensive logistical infrastructure. OSIA established field offices and support personnel in Washington and San Francisco; at Yokota Air Base in Japan; at Frankfurt, West Germany; and in Moscow and Ulan-Ude in the Soviet Union. Stretching across 19 time zones, these people and offices had responsibility for supporting the mission of on-site inspections and escorts under the INF Treaty.[25]

Colonel Troyan's team was not the only American inspection team in the USSR during September and October 1988. Three other U.S. teams were conducting closeout inspections of six Soviet missile bases, in widely dispersed areas of the USSR. At the same time, eight more American teams were monitoring the destruction of Soviet missiles at Kasputin Yar, Saryozek, Kansk, Chita, Stan'kovo, Sarny, Lesnaya, and Jelgava. OSIA's director said that in the fall of 1988 the United States had almost 100 INF inspectors in the Soviet Union conducting closeout, elimination, and portal monitoring on-site inspections.[26]



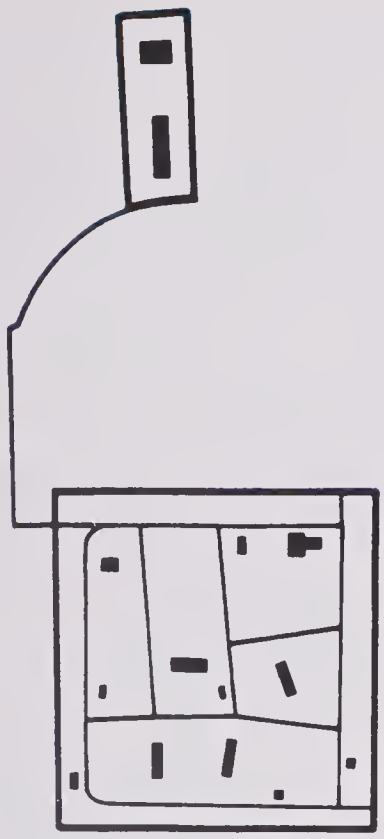
American inspectors boarding a bus. Ulan-Ude, USSR.

The record of the United States in conducting closeout inspections of Soviet INF sites can be understood by examining the inspection activity in each of the first three treaty years. All INF sites, Soviet and American, had to be closed out or declared as closed out within those three treaty years, from June 1, 1988, to June 1, 1991. The term "declared as closed out" took on added significance at the end of the third treaty year. In the final weeks of that year the United States and the Soviet Union declared several INF sites closed out—having no INF missiles, support systems, facilities, or activities. The declarations were made in late April and May 1991, but the actual closeout inspections occurred in June, July, and August. Consequently, a few of the final closeout inspections were actually accomplished in the fourth treaty year.

United States INF Closeout Inspections[27]

1st INF Treaty Year, June 1988-June 1989	50
2nd INF Treaty Year, June 1989-June 1990	36
3rd INF Treaty Year, June 1990-June 1991	47*

**Includes U.S. inspections in June, July and August 1991.*



Missile Operating Base, RAF Molesworth, Great Britain.

As noted earlier, closings of U.S. missile sites progressed at a distinctly different pace than closings of Soviet sites. This was because the United States had fewer sites (31 to the USSR's 130) and because U.S. basing strategy placed its INF missiles, specifically the Pershing II and the ground-launched cruise missiles (GLCMs) on larger, more centralized missile operating bases. During the initial baseline phase, the United States declared five INF sites closed. Soviet INF inspectors conducted closeout inspections of each site. During the remainder of the first treaty year, the United States declared two other INF sites closed out: RAF Molesworth in Great Britain and Florennes Air Base in Belgium. When the INF Treaty was signed in December 1987, the U.S. Air Force had just begun the deployment of INF GLCM missiles at Molesworth. Eighteen missiles and six launchers were listed in the treaty's Memorandum of Understanding and had been inspected during baseline. Following that period, the Molesworth GLCMs were withdrawn from the force, prepared for shipping, and transported to the United States for elimination at Davis-Monthan AFB in Arizona. At the same time, the Air Force prepared the site at Molesworth to be closed out in accordance with the provisions of the treaty. Following the formal closeout declaration in December 1988, Soviet INF inspectors arrived at Molesworth on January 19, 1989, for the closeout inspection. Colonel John Fer, USAF, led the American escort team. After the 24-hour inspection, Colonel Fer and the escort team accompanied the Soviet team to the point of entry, RAF Greenham Common Air Base, where they departed for Moscow.[28]

In Belgium, the status of the American GLCM base at Florennes was similar to that of Molesworth at the time of the signing of the INF Treaty in December 1987. In this case, 20 cruise missiles and 12 launchers had been deployed to Florennes; deployment had stopped at that point.[29] In the summer of 1988, the INF site had been inspected by a Soviet team during baseline. Then the Florennes' missiles and launchers were withdrawn from the force, prepared for shipment, and returned to the United States for elimination. The last of the Florennes-based cruise missiles left Belgium on December 13, 1988.[30] Following the required base closure activities, the United States declared that the INF site at Florennes had been closed out. On March 10, 1989, Colonel Fer again served as senior American escort for the Soviet team performing the closeout inspection. This was the final closing of a U.S. site in the first treaty year. Of the 31 sites declared in the MOU, the United States eliminated seven sites in that first year.[31]

By contrast, during the second treaty year (June 1, 1989, to June 1, 1990) the United States placed no sites in closeout status.[32] The United States operated Pershing II missile bases at three sites in West Germany: Schwaebisch-Gmuend, Neu Ulm, and Waldheide-Neckarsulm. In addition, there was a Pershing II missile storage facility at Weilerbach and a launcher repair facility at the U.S. Equipment Maintenance Center at Hausen in Frankfurt. All of these Pershing II sites remained active during the second treaty year. American GLCMs were deployed in U.S. Air Force units on six missile operating bases in five Western European nations: the United Kingdom, Italy, Belgium, West Germany, and the Netherlands. The missile base in the Netherlands, at Woensdrecht, was never activated; it was closed out during the baseline period. Two other American cruise missile bases, RAF Molesworth in the United Kingdom and Florennes in Belgium, were closed out in the first treaty year. The three remaining bases in Western

Europe were large, centralized, modern bases. Greenham Common in the United Kingdom had 101 missiles and 29 launchers; Comiso in Italy, 108 missiles and 31 launchers; and Wuescheim in West Germany, 62 missiles and 31 launchers. In addition, the United States had its GLCM missile repair facility at the SABCA plant in Grosselies, Belgium. This facility and the three major cruise missile bases remained in active status throughout the second treaty year.[33]

Thus, the United States entered the third treaty year, one in which all of its remaining INF sites had to be closed out, with 24 active sites. In the first half of that year, it declared three INF sites closed: SABCA-Grosselies, Belgium; Wueschheim, West Germany; and Waldheide-Neckarsulm, West Germany. Soviet INF inspectors conducted closeout inspections at each installation. In the second half of the treaty year (December 1, 1990, to June 1, 1991), the remaining 21 American INF sites were readied for closeout in accordance with the provisions of the treaty. By May 31, 1991, the United States had declared all of its remaining INF sites eliminated. The following table gives the number of Soviet INF closeout inspections by treaty year.

Soviet INF Closeout Inspections[34]

1st INF Treaty Year, June 1988 - June 1989	7
2nd INF Treaty Year, June 1989 - June 1990	0
3rd INF Treaty Year, June 1990 - June 1991	24*

** Includes Soviet inspections conducted in June and July 1991.*

Conversion of Closed-Out INF Missile Sites

The INF Treaty contained a provision that recognized that either party might wish to convert an eliminated INF site to another purpose. Article X, paragraph 9, stated that if a party to the treaty wanted to convert an INF missile operating base to use by another non-INF missile system, then they had to notify the other party "no less" than 30 days before the scheduled beginning date of the conversion. The notice declared the purpose of the conversion and the completion date.[35] The Soviet Union exercised this treaty provision and converted some of its former INF missile operating bases to facilities for newer, longer-range SS-25 mobile intercontinental ballistic missiles. The United States did not. Converted sites, because they had once been INF missile operating bases, were still subject to short-notice on-site inspections, which is the topic of the next chapter.

NOTES: CHAPTER 7

[1]*INF Treaty*, Article 11, Paragraph 4.

[2]Ibid., Paragraphs 5a and 5b.

[3]"US Inspectors Visit Sverdlovsk Plant," *Moscow Television Service (Vremya)*, July 18, 1988, trans. in *FBIS-SOV*, July 19, 1988, p. 3.

[4]Ibid.

[5]"US Specialists Inspect Works at Sverdlovsk," *TASS* (Moscow), July 17, 1988, trans. in *FBIS-SOV*, July 18, 1988, p. 5.

[6]As paraphrased in "Tour of Kazakhstan Plant," *TASS* (Moscow), July 21, 1988, rpt. in *FBIS-SOV*, July 22, 1988, p. 2.

[7]"First US INF Inspectors in Moravian City," *RUDE PRAVO* (Prague), July 23, 1988, p. 1, trans. in Foreign Broadcast Information Service, *Daily Report: Eastern Europe* (Washington, D.C.--hereafter, *FBIS-EEU*) (July 23, 1988), p. 6. See also: *CTK* (Prague), July 20-22, 1988, trans. in *FBIS-EEU*, July 21-23, 1988.

[8]*Prague Television Service*, July 21, 1988, trans. in *FBIS-EEU*, July 22, 1988, p. 1.

[9]"First US INF Inspectors in Moravian City," *RUDE PRAVO* (Prague), July 23, 1988, p. 1, trans. in *FBIS-EEU* (July 23, 1988) p.6.

[10]"End of CSSR Inspections," *CTK* (Prague), July 22, 1988, rpt. in *FBIS-EEU*, July 25, 1988, p. 4.

[11]Ibid.

[12]John J. Glisch, "Soviets Look Around at Pershing 2 Pads," *Orlando Sentinel*, August 4, 1988, p. A10. See also: George White, "Soviet Missile Inspectors Touch Down at Cape," *Florida Today*, August 4, 1988.

[13]Ted Shelsby, "Soviets Check Middle River Plant for Treaty Compliance," *Baltimore Sun*, August 4, 1988, p. 1D. See also: "Soviet INF Inspectors Visit Maryland Plant," *Washington Times*, August 4, 1988, p. 2.

[14]Ibid.

[15]*INF Treaty*, Article 5, Paragraph 1. See also: *INF Treaty Memorandum of Understanding Data Update*.

[16]Ibid., Article 7, Paragraph 3.

[17]V. Fridyev, "Missiles Scrapped," *Sotsialisticheskaya Industriya*, July 5, 1988, p. 4, trans. in "Further on Missile Dispatch," *FBIS-SOV*, July 6, 1988, p. 6.

[18]Ibid.

[19]Ibid.

[20]Ibid.

[21]Interview with Lt. Colonel Nicholas Troyan (USA), OSIA, January 30, 1991.

[22]Interview with Captain James Connell (USNR), OSIA, March 1-2, 1989.

[23]Interview, Troyan.

[24]Ibid.

[25]Lajoie, "Defense Appropriations," pp. 1-3.

[26]Interview with Lajoie, "Insights," in *Arms Control Today*, pp. 3-10.

[27]OSIA Headquarters, "First Year of On-Site Inspections," *Fact Sheet*, May 31, 1989. See also: OSIA Headquarters, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, July 2, 1990.

[28]Simon Duke, *United States Military Forces and Installations in Europe* (Oxford: Oxford University Press, 1989), pp. 304-305.

[29]Ibid., pp. 18, 20. See also: *INF Treaty Memorandum of Understanding*.

[30]Brice George, ed., *Jane's NATO Handbook, 1989-1990* (Surrey: Jane's Information Group, Ltd., 1990), 2nd Ed., p. 437.

[31]OSIA Headquarters, "First Year," *Fact Sheet*.

[32]OSIA Headquarters, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, July 2, 1990.

[33]Ibid.

[34]OSIA Headquarters, "First Year," *Fact Sheet*. See also: OSIA Headquarters, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, July 2, 1990.

[35]*INF Treaty Memorandum of Understanding*.

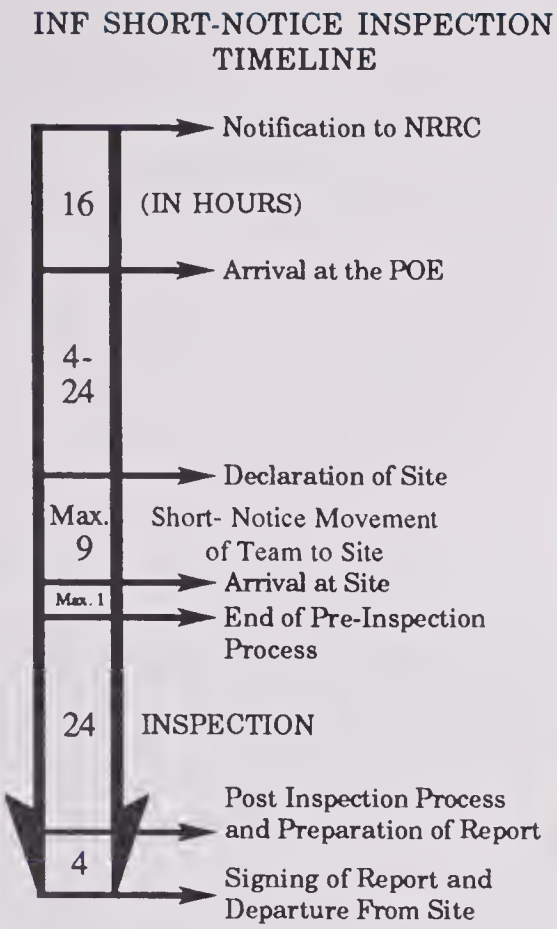
CHAPTER 8

INF SHORT-NOTICE INSPECTIONS



American inspectors SSGT Susan Alborn and TSGT David LaFleur with INF Treaty inspection equipment. Consisting of scales, measuring tapes, rod, camera, and first aid kit, this equipment was hand-carried to each site by short-notice inspection teams.

A short-notice inspection began when the INF team chief declared at a designated point of entry that the 10-person team would be conducting an INF on-site inspection under Article XI, paragraph 5a or 5b. The declaration included the name and coordinates of the missile site or facility to be inspected. The party being inspected then had nine hours



to get the INF team to the site. That nine-hour time period was the basis for calling these inspections "short-notice."[1]

This process was no different from declaring a closeout inspection and delivering that team within nine hours to the site where the closeout inspection would be conducted. This similarity was significant, for the function of the short-notice inspections was to give the inspecting party the right to ascertain through a 24-hour inspection the MOU items on site, including any INF missile systems, facilities, or activities at any INF site, active or closed. The party being inspected did not know the site to be inspected until the declaration. This meant that every Soviet and American INF site, with the exception of former missile production facilities that the treaty exempted, was at risk for a short-notice inspection.[2] The INF Treaty set an annual quota on the number of short-notice inspections. Each party could conduct 20 short-notice inspections per year in the first three years, 15 per year for the next five years, and 10 per year for five years after that. Cumulatively, each party had the right, over the full 13 years, to conduct 185 short-notice inspections.[3]

Dedicated Airlift

Short-notice inspections, with their nine-hour deadline, placed a premium on airlift. Both the United States and the Soviet Union used "dedicated" airlift for transporting INF inspection teams from the point of entry to the site after the team chief's declaration. The time period was so short and the distances so great that neither country could have carried out its



Interior of C-141 aircraft used for short-notice inspections. The United States used military airlift to transport Soviet inspectors from the point of entry to the INF inspection sites within the treaty-required nine hour time limit.



Brigadier General Lajoie, Director OSIA, walks with General Major Medvedev, Director, NRRC, and a team of Soviet inspectors. These inspectors had returned to Travis AFB, California, from an inspection site in the western United States.

obligations under the treaty without transporting the teams by air. For instance, the USSR was obligated to deliver American inspection teams from Moscow, the point of entry, to any one of 72 missile operating bases and missile support facilities in the western Soviet Union within nine hours of the team chief's declaration. The most distant missile site, Bayram Ali, lay nearly 1,200 kilometers from Moscow.[4]

The United States had fewer missile sites, but distances were similar. For example, the On-Site Inspection Agency was responsible for getting the Soviet inspection teams from Dulles International Airport in Washington, D.C., to one of five INF sites in the eastern half of the United States within nine hours. Those sites were in Oklahoma, Alabama, Florida, Texas, and Maryland. Only the site at the Martin Marietta plant in Middle River, Maryland, was readily accessible to Dulles International Airport. The other American INF sites—at Fort Sill, Oklahoma; Redstone Arsenal, Alabama; Longhorn Army Ammunition Plant, Texas; and Complex 16, Cape Canaveral, Florida, required a combination of air and bus travel to get the Soviet inspectors to the site within the treaty timelines.[5] In Europe, OSIA's escort teams, operating from the agency's field office in Frankfurt, faced equally stringent timelines. The United States had 12 INF missile operating bases and facilities in five Western European nations: Great Britain, West Germany, Italy, Belgium, and the Netherlands. Each of these nations had a treaty-designated point of entry to which Soviet inspection teams would fly before declaring the site to be inspected. The Soviet teams had to be

met by a U.S. INF escort team, which was responsible for arranging air and ground transportation to get the Soviet inspectors from the airport to the American INF site within the nine hours.

The U.S. Air Force had agreed in the spring of 1988 to transport American INF inspection and escort teams on a priority basis. This meant that the Military Airlift Command (MAC) would have to be available on short notice to fly to either of the two treaty-designated points of entry in the United States—Dulles International Airport or Travis Air Force Base, California—pick up the INF teams and take them to the declared site. If mechanical or other problems arose, backup aircraft would be available for the mission. In Western Europe, the United States had 12 missile sites subject to short-notice inspections. MAC assisted in transporting Soviet inspection teams to American missile sites in Europe. In addition, the command would fly U.S. INF inspection teams in Frankfurt to and from the Soviet points of entry, Moscow and Ulan-Ude, on a priority basis.[6]

Before the treaty entered into force, both the United States and the Soviet Union stipulated the types of aircraft that would be used to transport INF teams. The United States indicated that it would use the following military aircraft: C-130s, C-141s, C-9s, and T-43s. The Soviet Union said it would transport the INF teams on IL-62, TU-134, and TU-154 aircraft.[7] Two other larger transport aircraft--the USAF's C-5 and the USSR's AN-24--were reserved for transporting cargo for the portal monitoring inspection sites at Magna, Utah, and Votkinsk, in the Soviet Union. All aircraft flying INF Treaty missions were assigned standing call signs. OSIA worked with MAC and the Federal Aviation Administration (FAA) to develop special, new procedures for communicating air location, arrival, and departure times. The FAA worked with the International Civil Aviation Organization to coordinate flight routes, clearances, and communications over international airspace. Diplomatic approval for special flights into the



When Soviet inspection teams flew to the United States, they arrived at either Washington Dulles International Airport or Travis AFB, California. A Soviet team, led by Colonel Kuznetsov debarks from a IL-62 Aeroflot aircraft in California.

Soviet Union usually required up to 30 days for each flight. For the INF Treaty, however, standard air routes and standing diplomatic clearances were developed for the flights bringing in and retrieving INF inspectors. In addition, both parties agreed to forgo the normal procedure of having a national pilot or navigator accompany each flight. The reason was the frequency of flights (daily in and out of Moscow during baseline and every other day into and out of Ulan-Ude) and the logistical burden it would have imposed. The exception to this innovative policy was the U.S. military airlift flights transporting cargo to Votkinsk; Soviet navigators flew with the Air Force crews on their flights from Moscow to Izhevsk.[8]



At the end of this inspection at an SS-20 missile base at Kansk, USSR, in March 1989, the American inspection team and their Soviet escorts posed for a group picture. The large map behind the group, displays the "Battle Path" of the Soviet military unit stationed at Kansk.

These flight arrangements were worked out during the technical talks held in the spring of 1988 and endorsed by Special Verification Commission in July 1988. The procedures remained in effect until a more comprehensive listing of aircraft, equipment, and procedural rules were agreed to by the commission, and codified in the December 21, 1989, Memorandum of Agreement. On-board navigation systems for each type of aircraft also were detailed in this memorandum.[9]

Inspection Team Composition and Equipment

According to American inspectors, short-notice inspections were among the most interesting of the five types of INF on-site inspections. They contained an element of surprise, because the party being inspected had no advance notice of the site to be inspected. They had an element of pressure, because the inspection could not exceed 24 hours on site. The only exception to this 24-hour rule was a treaty provision for the inspecting team chief and senior escorting officer to agree to an extension of no more

than eight hours. In fact, during the first three treaty years, no inspection was ever extended. Short-notice inspections also had an element of interest. Short-notice inspections of closed-out or converted INF missile operating bases and support facilities, after they had been formally eliminated, constituted an opportunity for on-site inspectors to examine these sites. If a missile site had been converted from an operating base for INF missiles—for instance, Soviet SS-20s—to a base for missiles with longer ranges—such as the SS-25s (not an INF missile)—short-notice inspectors might find inspecting that site to be of special interest.

For all on-site inspections the INF Treaty spelled out team size, composition, leadership, and, to a degree, how the inspection team could organize itself. On-site inspection teams conducting short-notice, as well as baseline and closeout, inspections were limited to 10 members. Each inspection team operated under the direction of a team leader and a deputy. At least two inspectors on each team spoke the language of the party being inspected. Short-notice inspections, like those conducted during baseline and closeouts, were limited to 24 hours.[10] American teams conducting short-notice inspections always brought with them the measuring, weighing, and photographic equipment authorized in the treaty's Memorandum of Agreement. This equipment, which was negotiated, had to be hand-carried to the site by the inspection team members. The equipment consisted of the following items:

Authorized INF Team Equipment[11]

	United States	USSR
Linear measuring devices (each inspector)	2 measuring tapes (30m,3m) 1 plum bob set (bob, cord, target) 1pi tape	3 measuring tapes (20m, 10m, 5m)
Portable weighing devices (each team)	4 Heavy-duty portable scales	4 Heavy-duty portable scales
Camera equipment (each team)	2 Polaroid camera sets (8-eight pack film)	2 Polaroid camera sets (8-eight pack film)
Other portable equipment (each inspector)	1 Flashlight, 1 Compass 1 Roll of seals (tamper indicating)	1 Flashlight,1 Compass 1 Sealing device (tamper indicating)
Radiation detection device (each team)	1 Radiation detection device set	1 Radiation detection device set



Inspection teams had to hand-carry all inspection equipment from the point of entry to the inspection sites. Shown here are the emergency first aid kit, Polariod camera with film, flashlights, compass, seals, measuring tapes, measuring rod, and weighing scales.

This equipment allowed the inspectors to measure and, if appropriate, weigh the missiles and support equipment and facilities declared to be present at the site. The objective was for the inspectors to ascertain that the INF missiles and facilities were in fact those covered under the treaty. Storage buildings, garages, trucks—all were subject to measurement to discover if a treaty item, a missile stage, for instance, had been stored in them. All on-site inspections of active INF missile operating bases or facilities involved visually inspecting, measuring, and possibly weighing the INF missile systems that were on site at the time of the inspection.

The standard characteristics of these missiles and their supporting equipment had been declared in the treaty's Memorandum of Understanding.[12] In that memorandum, both parties had published technical data for each INF system—length of the missile; length of first and second stages; maximum diameter; weight of first and second stages; maximum length, width, and height of launchers; and characteristics of the missile transporters, support equipment, and missile shelters. During baseline, these standard measurements were confirmed and, where necessary, corrected by one inspection team from the U.S. and one from the USSR. Commander John C. Williams, U.S. Navy, led the U.S. team and they conducted baseline technical data measurements on the six Soviet INF missile systems. The measurements made by this team became the standard used by all other U.S. teams as they conducted on-site inspections.[13]



SGT Stephen C. Prato, escort, assists and confirms measurement by Soviet inspector G.M. Komogortsev.

Two Polaroid cameras, a primary camera and a backup, were carried to the site by the inspecting team. The treaty's Protocol on Inspections defined their use.[14] During an inspection, an inspector had the right to request a clarification from the escorting party regarding an ambiguity. The term "ambiguity" was never formally defined in the treaty, but it was clear that the on-site inspector could ask for a clarification if he or she had a question about an aspect of the treaty. To give an example, an on-site inspector might ask for a clarification about an object or building at the site that did not appear to conform to the description provided in the treaty documents. Or an inspector might question a procedure used during an elimination for destroying an item on a missile launcher, rendering it inoperable.

To resolve the ambiguity, the treaty stipulated that the inspector had the right to request a clarification from the in-country senior escort. If the inspector's questions could not be resolved satisfactorily, the inspecting party could make a note of the question or issue on the inspection report and they could request that a photograph be taken. The inspecting team's camera would be used, but the escort team, according to the treaty, would take the photograph. Two photographs were snapped, one for each party. Both parties had agreed during the INF Technical Talks to use Polaroid cameras. Once the photos were taken, they were included in the final inspection report, along with any explanation of the ambiguity.[15] From this point, resolution of the ambiguity lay in the hands of decision makers in the respective national capitals. If they felt the inspector's questions merited further consideration, they could place the issue before the Special Verification Commission in Geneva. The commission was authorized by the treaty and its charter to resolve questions relating to compliance with treaty obligations. If the issue did not merit further consideration, it remained as noted in the inspection report.

In general, the equipment authorized by the INF Treaty for use in short-notice (as well as baseline, closeout, and elimination) inspections



When the inspection team leader decided to document a treaty ambiguity, Polaroid photographs were taken. The escorting team took the photos. Here SGT Spenser A. Smith, holding the camera, takes the picture, while Colonel Aleksandr V. Kuznetsov (l), Soviet team chief, observes.

constituted a "low" technology approach. The treaty limited on-site inspections to a prescribed area (a site), to direct observation (10 inspectors on site), and to making a few simple measurements (length, diameter, weight) to confirm gross system data. There were two major exceptions to this generalization. The first involved the X-ray imaging equipment used by U.S. continuous portal monitoring inspections at Votkinsk. The second occurred during short-notice inspections when the inspecting party used specially authorized radiation detection equipment (RDE).

Inspections with Radiation Detection Equipment

During the INF treaty negotiations, the Soviet Union indicated its intention to convert some of its SS-20 missile operating bases to SS-25 bases. The SS-25 was a fifth-generation intercontinental ballistic missile that contained a single warhead. It was road mobile, carried in a sealed canister, and mounted on a transporter-erector-launcher.[16] The SS-25's range (10,500 kilometers) placed it outside the INF Treaty (500 to 5,500 km). However, the United States expressed specific concerns during treaty negotiations. When the SS-25 missile system was deployed in the field, with its missile inside the canister and mounted on the launcher, the U.S. contended that the canister might conceal an SS-20 missile. The one distinguishing characteristic between the two systems, U.S. treaty negotiators argued, was that the SS-25 had a single nuclear warhead, while the SS-20 had three warheads.[17]

After considerable discussion, the Soviet Union agreed to a provision in the treaty allowing the inspecting party the right to use radiation detection equipment to measure the fast neutron intensity flux emanating from the launch canister.[18] A launch canister with a missile inside containing a single warhead (SS-25) emitted a different pattern of fast neutrons than did one with a missile having three warheads (SS-20). The American inspection team, using the RDE, compared their measurements against a set of benchmark radiation measurements taken during a special inspection in the summer of 1989. At that time, Commander Williams and a special INF inspection team had gone to two Soviet missile operating bases (one with SS-20s, the other with SS-25s) and had used the RDE to measure the emanations from the warheads in their canisters. The team's RDE benchmark measurement data, which were confirmed on site by their Soviet escorts, became the standard against which all subsequent RDE measurements were compared.[19]

In the Memorandum of Agreement of December 21, 1989, the USSR and the U.S. agreed on procedures on how RDE measurements would be taken during an on-site inspection. The inspection team had the right under the treaty to go to a former INF missile site that had been converted to a missile operating base for another system, set up its RDE, and measure only the exterior of the missile canisters to determine if the neutrons emanating indicated one or three warheads. For the entire period during which radiation measurements were being taken at the site, the party being inspected had the right to observe the process. Both parties, inspectors and escorts, recorded, processed, and made graphic representation of the RDE data.[20]



An American inspector conducting training on the Radiation Detecting Equipment.



SS-20 and Pershing II INF missiles on display at the Air and Space Museum, Smithsonian Institution, Washington, D.C.

After measuring each missile canister, the two parties compared the results of the RDE measurements made on site with the RDE benchmark measurements made during baseline. If the data did not differ by more than 50 percent, the on-site missile "would not be considered a missile subject to the Treaty." If the data did differ by more than 50 percent, the inspected party had to open the launch canister and allow the inspecting party to confirm by visual observation that the missile inside was not "a missile subject to the Treaty." In any event, after all of the RDE measurements of the launch canisters, the inspecting team had the right to select one of the launch canisters at random and have it opened by the inspected party for visual inspection. This provision added a measure of randomness to the inspection process and allowed a visual check of one SS-25 missile canister by the inspectors on site.[21]

Radiation detection equipment and procedures were used primarily during short-notice inspections. The same rules applied as for all other short-notice inspections: the inspection lasted no more than 24 hours; the inspection team was transported to the site within nine hours; the team had a maximum of 10 inspectors. The final inspection report was written on site by the team at the conclusion of the inspection. The report was signed by the U.S. and Soviet team chiefs. Each nation retained a copy.

The INF Treaty: A Template for the Future

During the first three years, the INF Treaty permitted each party to conduct 20 short-notice inspections each year. From June 1988 to June 1991, both nations conducted their full quota of 60 short-notice inspections.[22] By the end of the third treaty year—May 31, 1991—the United States and the USSR had eliminated all of their declared INF missiles and components and had declared as closed out all INF activity at the missile operating bases and support facilities. With the exception of a few closeout inspections in June, July, and August 1991, only two types of on-site inspections remained after the end of the third treaty year: continuous portal monitoring and short-notice inspections. These would continue as inspection rights in the treaty for 10 more years. During the first three years, however, a complex, five-part process had emerged for carrying out all aspects of the INF Treaty.

The first part consisted of U.S. and Soviet diplomats refining through their work in the Special Verification Commission the basic treaty documents: the Protocols on Eliminations and Inspections; the Memorandum of Understanding and Data Updates; and the Memoranda of Agreement. The second part was the effort by the American and Soviet on-site inspection agencies, the inspection and escort teams, and the new treaty communication centers. Cumulatively, their work established precedents, patterns, and processes for carrying out the on-site inspection provisions of the treaty. The third part of the process was the effort by the U.S. and Soviet military services, which owned and operated the INF missiles, launchers, support equipment and missile sites. They did the hard work of demobilizing, transporting, and eliminating the systems and closing out the sites. The fourth part consisted of the efforts within both governments to audit and analyze the treaty's two basic obligations of eliminating INF missile

systems and sites, and of ceasing production, testing, and deployment of all ground-based, intermediate- and shorter-range INF missile systems. Judgements rendered here were critical to the fifth and final part. Leaders in both nations had to decide on a continuing basis if the other party was in compliance with the treaty. Their compliance decisions became part of a larger question about the role of arms control treaties in national security. This was the ultimate issue; and it took on added significance in the 1990s as both nations entered into new, more extensive arms control treaties and agreements.

"An inspector is not a tourist."

General Lajoie

Until these new treaties actually entered into force, the cumulative record of on-site inspections under the INF Treaty constituted an important reservoir of experience. During the first three years, both U.S. and Soviet inspectors and escorts developed a sense of professionalism in implementing the INF Treaty. This professionalism was rooted in a thorough knowledge of the treaty; leadership by the team chiefs, deputies, and linguists; and participation in hundreds of INF inspection and escort missions. This sense was captured in a quiet exchange in late December 1988, in Riga, Latvia, between a Soviet journalist and an American INF inspection team member. The Americans had just completed a closeout inspection of a former SSC-X-4 site at Jelgava, Latvia. They had flown to Riga, the capital, and were preparing to go from the airport to the city when a reporter from *Sovetsksaya Latviya* asked to interview them. He singled out Lt.Colonel Nicholas Troyan, the team chief, and General Roland Lajoie, who on this occasion was one of the 10 inspectors.[23]

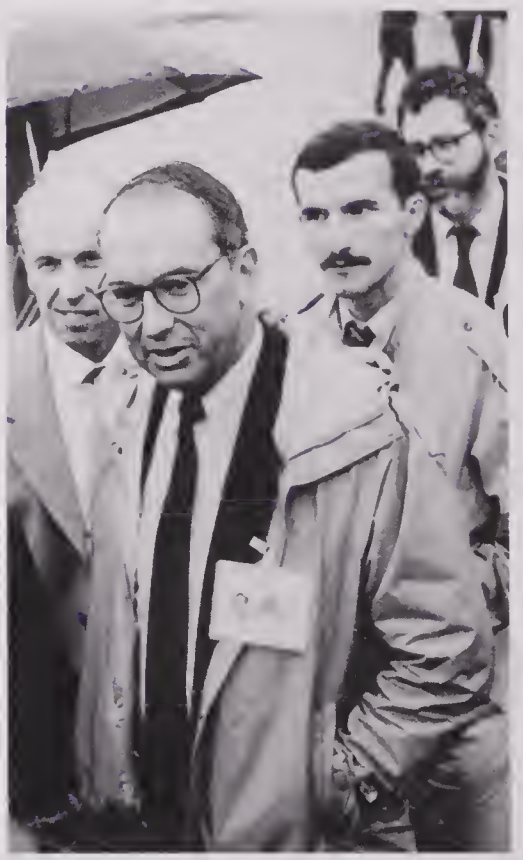
Riga, Latvia
January 1, 1989

Latvian reporter: Please tell us how the treaty is being fulfilled. Do you have any complaints against the Soviet side?

Inspector Lajoie: From my point of view and from the point of view of the OSIA representatives, the treaty is being fulfilled irreproachably. About 150 inspections have already been carried out; they have shown that the elimination of the missiles is proceeding as was agreed.

Reporter: Tell us, if you can, what you like about our republic. Have you seen anything besides military facilities?

Lajoie: We have an expression: An inspector is not a tourist. But nonetheless a very interesting program was organized for us. In 15 minutes we should be at a concert at the Dom Cathedral. By the way, I am not visiting Latvia for the first time. Six years ago, while I was working in the American embassy in Moscow, I had the opportunity to visit Riga. I know for American diplomats the Baltic region, and especially Riga, is always of special interest.



General Roland Lajoie being interviewed by the media.

Reporter: Will you be visiting us again?

Lajoie: The treaty says that on-site inspections may be made for the next 12 years. Therefore, we will probably be back, but infrequently. The missiles are all destroyed and the bases are empty.

Reporter: Then everything was done properly?

Lajoie: Yes.



"IS JUST ANOTHER AMERICAN VERIFICATION TEAM LOOKING FOR INTERMEDIATE RANGE MISSILES, COMRADE WIFE!"

NOTES: CHAPTER 8

[1]U.S. Senate Committee on Foreign Relations, *Treaty Document 100-11*, pp. 22-23.

[2]Ibid.

[3]*INF Treaty*, Article 11, Paragraph 5a.

[4]For a list of the declared Soviet INF sites according to point of entry, either in Moscow and Ulan-Ude, see the *INF Memorandum of Agreement*, Annex III, Paragraphs 1a and 1b.

[5]Ibid., Paragraphs 2a and 2b.

[6]Kennedy, *Supporting the INF Treaty*. See also: Interview, McConnell.

[7]*INF Treaty Memorandum of Agreement*, Article 3, Paragraphs 7a and 7b.

[8]Lt. Colonel Gerald Heuer (USAF), OSIA, "Letter from the OSIA Yokota Field Office," May 15, 1991.

[9]*INF Treaty Memorandum of Agreement*, Annex II.

[10]*INF Treaty Protocol on Inspections*, Articles 6 and 7.

[11]*INF Treaty Memorandum of Agreement*, Annex IV, Section 1.

[12]*INF Treaty Memorandum of Understanding*, Articles 3 and 4.

[13]See Chapter 4 for an account of Team Williams' baseline measurements.

[14]*INF Treaty Protocol on Inspections*, Article 6, Paragraph 12.

[15]Ibid. See also: Article 7, Paragraphs 8-10 and 14; Article 11.

[16]Cochran, *Soviet Nuclear Weapons*, pp. 133-135.

[17]*INF Treaty Protocol on Inspections*, Article 6, Paragraph 9. See also: *INF Treaty Memorandum of Agreement*, Annex IV; Senate Committee on Foreign Relations, *INF Treaty*, Vol. 1, pp. 56-63, 188-204. Senator Jesse Helms (R-North Carolina) raised this issue before the Senate Foreign Relations Committee during its hearings on the INF Treaty. For a reprint of related testimonies, see pp. 188-197.

[18]*INF Treaty Memorandum of Agreement*, Annex IV, Paragraph 3d.

[19]OSIA Office of Public Affairs, *On-Site Insights*, July 1990.

[20]*INF Treaty Memorandum of Agreement*, Annex IV, Paragraph 3d.

[21]Ibid.

[22]OSIA Headquarters, "First Year," *Fact Sheet*. See also: OSIA Headquarters, "INF Treaty On-Site Inspections: A Status Report," *Fact Sheet*, July 2, 1990.

[23]Yu Glants, "Topical Interview: The Missiles Disappear at Noon," *Sovetsksaya Latviya* (Riga), January 1, 1989, p. 3, trans. in "US OSIA Director Interviewed During Inspection in Latvia," *FBIS-SOV*, January 2, 1989.

CHAPTER 9

EPILOGUE: CONTINUITY OF ARMS CONTROL AMIDST REVOLUTIONARY CHANGES



President Mikhail Gorbachev and President George Bush sign the Threshold Test Ban Treaty in the White House on June 1, 1990.

On June 1, 1990 at the Washington Summit President Bush and President Gorbachev signed the new Protocols to the Threshold Test Ban Treaty (TTBT) and the Peaceful Nuclear Explosions Treaty (PNET).[1] These treaties, first signed in 1974 and 1976, limited the size of each signatory's underground nuclear explosions to 150 kilotons or less. The new Protocols authorized reciprocal verification rights, including monitoring nuclear tests through on-site inspections, seismic measurements, and under certain conditions, hydrodynamic measurements.[2]

President Bush Directs OSIA Expansion

These treaties and their new protocols were the first of several significant, new bilateral and multilateral arms control agreements in 1990-1991. Recognizing that the U.S. Government was entering into a new phase of cooperative arms control agreements, President Bush issued an executive directive just prior to the Washington Summit. He expanded the On-Site Inspection Agency's charter to include operational planning and preparations for four arms control agreements under negotiation: Conventional Armed Forces in Europe, Chemical Weapons, Strategic Arms Reductions, and Nuclear Testing.[3] The President cited three reasons: OSIA's extensive experience in conducting on-site inspections under the INF Treaty, the long lead times associated with identifying, assigning, and training linguists, and the pending series of new arms control treaties. With this directive, President Bush changed the On-Site Inspection Agency from a single-to a multi-treaty agency.



Drilling crew maneuvers large drilling bit into emplacement hole at the Nevada Test Site.

Within the United States government, all treaties moved through a sequence of actions from treaty negotiation to implementation. The process began with diplomatic negotiations to develop the treaty text, protocols, and annexes. Presidential approval and formal signature, usually at a summit meeting, were followed by a presidential directive defining roles and missions for carrying out each aspect of the treaty. The Constitution required the President to submit the signed treaty to the U.S. Senate for its advice and consent. Following Senate hearings, debate, and ratification, the treaty was returned to the President for his signature and a formal exchange with the other signatories. Actual entry into force and implementation of the treaties began after the formal constitutional provisions had been met.

For the two Nuclear Testing Treaties, TTBT and PNET, and their new protocols, the initial phases, diplomatic negotiations and presidential signature concluded with the Washington Summit of June 1, 1990. In defining which government departments and agencies would carry out the provisions of the treaties, the President's National Security Council staff surveyed existing laws, directives, and precedents.They incorporated President Bush's directive to expand the On-Site Inspection Agency with the laws and policies governing the Department of Energy's and the Department of Defense's conduct of underground nuclear tests. The result was President Bush's directive in mid-July1990. In defining the roles and missions for those departments and agencies responsible for the nuclear testing treaties. The Department of Energy would carry out all of its statutory obligations in planning, scheduling, and conducting the U.S. underground nuclear tests at the Nevada Test Site. The On-Site Inspection Agency would manage and support the on-site monitoring of the nuclear tests conducted under the Threshold Test Ban Treaty. Management included providing for team leadership, linguists, logisticians, and administrative support personnel. Support included responsibility for treaty training, funding, communications, logistics, and the construction of facilities including inspector housing and treaty-required seismic stations. Because of the technical nature of conducting controlled, underground nuclear tests and the complex rights and obligations under the new protocols to the treaty, the President stated that extensive coordination would be necessary between the Department of

Energy, the On-Site Inspection Agency, and the other agencies of the Department of Defense involved in nuclear testing.[4]

President Bush submitted the treaties and new protocols to the U.S. Senate in early July, 1990. From July to September, the U.S. Senate Foreign Relations Committee held hearings on the new protocols. Following hearings and debate, the full Senate consented to ratification in late September by a vote of 98-0. The Soviet Union's legislative body, the Supreme Soviet, voted unanimously in early October to ratify the two treaties and the new protocols. For the next ten weeks, the treaties and accompanying documents were readied for the formal exchange.[5]

While the Bush administration was working through these Nuclear Testing Treaties decisions and constitutional processes, negotiations on the Conventional Armed Forces in Europe (CFE) Treaty were moving toward a conclusion in the summer and fall of 1990. This was a complex, multinational treaty with multiple protocols for inspections, reductions, notifications, reclassificiation, and categorization. Personnel from OSIA, who had extensive experience in implementing the INF Treaty, advised American treaty negotiators working on the CFE Treaty. As the treaty negotiations grew progressively more detailed and intense, General Lajoie succeeded in placing some of the agency's most experienced INF team chiefs and inspectors as technical advisors on key backstopping committees and treaty working groups in Vienna, and Washington.[6]

When CFE Treaty negotiators in Vienna began focusing on inspection and reduction protocols, Lt. Colonel Paul Nelson, an experienced Army foreign area specialist and INF Treaty team leader, went to Austria and served as technical advisor to the U.S. delegation. After a month, Colonel John C. Reppert, US Army, a senior Soviet specialist and INF team leader, lent his expertise to the delegation. While these CFE negotiations were underway, General Lajoie dispatched Irene Nehonov, OSIA's Russian Language Coordinator, and Lt. Colonel Vitali Mostovoj, USAF, an OSIA team chief, on an extensive round-the-world trip to California, Hawaii, Japan, and Europe, to interview and evaluate hundreds of linguists for training and then assignment to the agency. More than one hundred and fifty linguists would be needed by 1992 to carry out the inspection and escort provisions of the new treaties. The first group of a continuing stream of these military linguists were entering formal training when the CFE Treaty was signed in Paris in mid-November 1990.

President Bush went to Paris on November 19, 1990, where he joined the leaders of 21 nations in the formal signing ceremony for the CFE Treaty.[7] Immediately thereafter, the President's National Security Council began the process of defining the roles and mission of those U.S. Government departments and agencies responsible for implementation. Since this was a treaty which focused exclusively on conventional arms—tanks, artillery, aircraft, and other military equipment—the U.S. Department of Defense was assigned principal responsibility. Within DOD, the U.S. European Command (EUCOM) and the On-Site Inspection Agency received specific missions in managing and carrying out the United States' treaty rights and obligations. At OSIA, General Lajoie acted quickly, instituting a major internal restructuring of the agency less than three weeks after the treaty was signed.

On December 1, 1990, OSIA's Field Office Europe was elevated to be the OSIA-Europe with responsibility for conducting all of the United States' CFE Treaty inspections.[8] OSIA-Europe retained responsibility for serving as a gateway office, supporting both the INF Treaty and Threshold Test Ban Treaty missions. The CFE Treaty mission, however, meant a significant expansion. To carry out all aspects of the European operation, the command would be increased from 20 to 150 people. In Europe, three senior officers, Colonel Frederick E. Grosick, USAF, Colonel Lawrence G. Kelley, USMC, and Lt. Colonel Scott G. Lang, USA, directed the selection and recruitment of new team chiefs, deputies, linguists, inspectors, and support personnel. Training for these new inspectors required a rigorous regime because the CFE Treaty differed from other treaties in several important respects. There were five types of equipment—tanks, armed combat vehicles, artillery, aircraft, and helicopters—and approximately 188,000 treaty-limited equipment items. There were six official treaty languages: English, Russian, French, German, Spanish, and Italian. The number of treaty parties (22 in 1990), and the anticipated use of multinational inspection teams, also differed from the experience of the INF Treaty. At OSIA-Europe , Colonel Kelley and his staff concentrated their efforts on developing in each new inspection team a thorough knowledge of the treaty, skills to recognize the types and and variations of treaty equipment, and a linguistic vocabulary for communicating and understanding treaty-specific information in multiple languages. At the same time, Colonel Grosick and Colonel Kelley worked with the U.S. European Command in devising and scheduling a series of CFE Treaty trial inspections. These trial inspections were conducted with the operational military forces and multinational inspection teams from the NATO alliance.[9]



In their preparations for implementing the Conventional Armed Forces in Europe Treaty, OSIA inspectors and escorts participated in a series of site visits and trial inspections at U.S. Army sites in Europe.



For the CFE Treaty, training included mock inspections in which American inspectors (bluejackets) played the role of the inspecting team, while the American escorts (battle dress uniforms) acted the part of the escorting team.

While OSIA-Europe was planning and preparing to carryout CFE Treaty inspections, the Threshold Test Ban Treaty and the Peaceful Nuclear Explosions Treaty and their new protocols entered into force on December 11, 1990.[10] Within days both parties began implementing the Threshold Test Ban Treaty. The first step was the exchange of information on national test sites and the number of scheduled nuclear tests that would exceed 35 kilotons. Tests above that level and below 150 kilotons were subject to verifying inspections under the treaty. For 1991, the United States declared that two of its nuclear underground tests at the Nevada Test Site would fall within the TTBT's threshold limits.[11] The Soviet Union declared that it would exercise its treaty rights and monitor the tests. Initially, President Gorbachev declared a limited moratorium on Soviet testing; however, he changed that policy in June of 1991 and announced that the Soviet Union would conduct two tests at its Semipalatinsk nuclear test sites later in the year. The United States promptly declared its intention to send verification inspection teams to the USSR to monitor those tests.[12]

For the On-Site Inspection Agency these announcements meant that the transition from planning and preparations to implementation was occurring rapidly. Implementing the Threshold Test Ban Treaty, like preparing for the Conventional Armed Forces in Europe Treaty, meant significant new responsibilities, requiring new people, resources, and funding, together with the necessity for considerable interagency coordination.

General Parker Takes the Reins

Coincidental with these new responsibilities were changes in the agency's leadership. On January 25, 1991, Major General Robert W. Parker, USAF, accepted the command from Major General Roland Lajoie, the first Director. General Lajoie accepted reassignment to the Joint Staff as the

Deputy Director for International Negotiations. The new Director, Major General Parker, was an experienced strategic missile officer and Strategic Air Command wing commander who had served immediately before as the Military Advisor to Ambassador Ronald Lehman, Director of the U.S. Arms Control and Disarmament Agency. Starting in January 1991, the new director accelerated the pace of change in the rapidly expanding 250-person inspection agency. Growth came quickly, one year later, there were 604 people. Upon assuming command, General Parker stated that OSIA's first priority would remain on-site inspections under the INF Treaty.[13]

Against the background of the Gulf War of 1991, implementation of the INF Treaty continued unimpeded. General Parker directed Colonel Ronald P. Forest, Director of Operations, to initiate planning and preparations for the final eliminations of the INF Treaty missiles and launchers scheduled for April and May 1991 in the Soviet Union, Europe, and the United States. These final eliminations, which had to be completed by the end of the third treaty year (May 31, 1991), would involve national officials, senior military officers, the public, and the media to the greatest extent since the initial baseline inspections. Simultaneously, numerous closeout INF inspections by Soviet and American teams were being carried out confirming the declared status of the remaining missile operating bases and facilities. Both parties were also conducting short-notice INF inspections at a pace to complete their annual quota of 20 by May 31, 1991. In three months —March, April, May—more than 350 American inspectors deployed to the Soviet Union, and another 350 assisted in escorting Soviet inspectors conducting inspections at U.S. INF installations. For some, it ranked among the busiest times of the entire INF Treaty.[14]



General Lieutenant Vladimir I. Medvedev, Director, Soviet NRRC, and Major General Robert W. Parker, USAF, Director, OSIA, at the Pershing II final elimination ceremony at Longhorn, Texas on May 6, 1991.



The Threshold Test Ban Treaty required a Coordinating Group Meeting. The USSR (l.) and U.S. (r.) delegations met in Washington D.C., in February - March 1991.

Simultaneous with this INF Treaty activity, General Parker entrusted Colonel Gerald V. West, OSIA's Chief of Escorts, with responsibility for leading the United States' delegation to the first joint U.S.-Soviet Coordinating Group Meeting conducted under the Threshold Test Ban Treaty. Hosted by OSIA, this precedent-setting meeting of US and Soviet technical experts was held in Washington, D.C. in February and March 1991. The experts established a detailed schedule for the Soviet verifying party to go to the Nevada Test Site, install their treaty-authorized monitoring equipment, and to monitor the scheduled underground nuclear explosion. The monitoring equipment authorized under the treaty's protocols was quite extensive, consisting of tons of cable, metal tubing, and specific, approved monitoring devices. Every item had to be identified, shipped from the Soviet Union, inspected, and then shipped again to the Department of Energy's Nevada Test Site. The logistics involved in this and subsequent Soviet verification inspections under the treaty caused a significant expansion in OSIA's workload. Within three months of the first Coordinating Group Meeting, Colonel West and the agency hosted a second meeting in June, 1991. This one was just as detailed and protracted as the first. It planned the detailed schedule of the Soviet verifying party's activity in monitoring the second U.S. underground nuclear test to be conducted under the treaty.[15]

Negotiations on the START Treaty entered their final stages in April 1991. For the next three months, the United States and the Soviet Union pressed hard to complete a strategic arms reduction treaty that had been locked in negotiation for more than ten years. Anticipating the signing of the START Treaty, General Parker initiated with the Air Force and Navy's strategic nuclear missile, bomber, and submarine commands a series of staff assistance visits by experienced teams of on-site inspectors and escorts.[16] These "visits" and subsequent mock inspections went to every American missile, bomber, and submarine site included in the START Treaty. There, the teams worked with Air Force and Navy officers and non-commissioned officers in reviewing the infrastructure of each inspectable facility. They

identified problem areas, and suggested improvements in the procedures for escorting the inspection teams. At the same time, OSIA identified, recruited, and trained new START inspection team leaders, deputies, linguists, and inspectors on the complex treaty text and its protocols. Under the treaty there were 12 types of on-site inspections.

On the final day in July 1991, the Strategic Arms Reduction Treaty was signed in the Kremlin. Speaking to an audience of diplomats, legislators, military leaders, and television viewers worldwide, President Bush defended the treaty: "Neither side won unilateral advantage over the other. Both sides committed themselves instead to achieving a strong effective treaty." President Gorbachev struck a similar theme: "Here in Moscow, some will point to our unilateral concessions, while in Washington there will be talk about concessions made to the Soviet Union.... Sharp criticism is to be expected from those who want faster and more ambitious steps toward abolishing nuclear weapons. In other words, this treaty will have to be defended."[17]

Collapse of the Soviet Union, Continuity of Arms Control

Within three weeks of the signing of the START Treaty the Soviet government was threatened on August 19 by a coup d'etat. The coup leaders acted to halt implementation of the All-Union Treaty, which ceded significant powers to Russia and the other Soviet republics. However, in the early hours of the revolution the leaders appeared hesitant and uncertain. Opposition appeared quickly. Russian President Boris Yeltsin and thousands of his supporters went into the streets of Moscow, protesting the unconstitutional seizure of power. [18] By chance, Master Sergeant Gary Marino and Joe



PHOTOGRAPH BY GARY P. MARINO

Russian President Boris Yeltsin, standing on a Soviet tank, declared the coup d'etat illegal and called for a general strike and civil disobedience. Moscow, August 19, 1991.



PHOTOGRAPH BY GARY P. MARINO

On the morning of August 19, 1991, Soviet tanks proceeded down Kutuzovsky Prospekt towards the Russian Parliament Building, Moscow.

Murphy, two American INF Treaty inspectors from Votkinsk, were in Moscow picking up the weekly mail when the revolution began. As they walked out of the U.S. Embassy, Marino noticed "the ground began shaking as the sound of tanks became deafening outside of the perimeter fence. As I ran back to the hotel...tank after tank rolled methodically toward the Kremlin. While crossing the Moscow River, I looked down Kutuzovsky Prospekt at the endless number of tanks, armored personnel carriers, and other military vehicles."[19]

Marino and Murphy stayed in their hotel long enough to pick up a camera, then went back into the streets. Crowds began to gather. "At a five-way intersection by the bridge," Marino recalled, "people began to block traffic and attempted to break up the convoy and disrupt movement by commandeering buses and electric trams."[20] Then, as they were standing among the crowd, Yeltsin came out of the Russian Parliament Building, climbed up on a tank, and began rallying the people against the coup plotters. When the Russian president finished his speech, he walked through the crowd shaking hands, including those of the two Americans.

By the end of the week the coup had failed. However, when President Gorbachev returned to power, his government and the Communist Party were seriously weakened. Within ten days the party had been abolished, the All-Union Treaty had been reaffirmed, and power had shifted to President Yeltsin and the leaders of the national republics. Over the next six months, domestic issues dominated the revolutionary agenda, but foreign issues, especially those concerning control of nuclear weapons and the conduct of arms control treaties, continued to evoke intense interest.



PHOTOGRAPH BY GARY P. MARINO

Soviet tank in front of Hotel Ukraine, the hotel used by all American INF inspectors from 1988-1991.



Just six weeks after the signing of the START Treaty on July 31, 1991, the first on-site exhibition took place at Carswell Air Force Base, Texas. Here Colonel Richard Sfafranski, Commander, 7th Bomb Wing, accompanies General Medvedev, Director, NRRC, and General Parker, Director, OSIA.

The first exhibition under the START Treaty had been scheduled to occur in Texas in mid-September 1991. The treaty permitted both the Soviet Union and the United States to send on-site inspection teams to strategic missile, bomber, and submarine bases to record and confirm the technical characteristics of the missiles and bombers included in the treaty. In Texas, the United States would exhibit, to a Soviet on-site inspection team, B-1 and B-52 bombers. This was to be the first of four American exhibitions, while the Soviet Union would conduct nine exhibitions. The first START exhibition took place as scheduled at Carswell Air Force Base in Texas on September 17, 1991. All of the other START exhibitions were conducted as scheduled in the fall and winter months of 1991-1992. [21]

On-site inspections associated with the INF Treaty continued unimpeded during these same months. Two types of on-site inspections remained active: continuous portal monitoring and short-notice inspections. All aspects of the continuous portal monitoring inspections at Votkinsk and Magna continued as in earlier years. All short-notice inspections were conducted in accordance with the provisions of the treaty.

In late September, approximately a month after the failed coup, President Bush announced major new unilateral reductions in U.S. strategic and tactical nuclear weapons. Bush's sweeping reductions were matched a week later when Gorbachev declared new reductions and cancellations in weapons production programs in the Soviet Union. [22] One part of Gorbachev's declaration was his announcement of a one-year moratorium on all Soviet underground nuclear tests. This Soviet moratorium was

reconfirmed a few weeks later by Russian President Yeltsin for all tests on Russian territory. As a direct result, the United States cancelled its plans to verify under the Threshold Test Ban Treaty a previously scheduled Soviet test at the Semipalatinsk Test Site in Kazakhstan, USSR. [23]

These test moratoriums did not stop a Soviet verification team from continuing its activities to monitor the first American nuclear explosion under the provisions of the treaty. In late June, 23 Soviet inspectors had arrived at the U.S. Nevada Test Site to oversee the drilling required for the emplacement of the Soviet monitoring equipment. A month later, 18 members of the Soviet team departed the country, leaving on-site 5 inspectors to observe the emplacement and tamping. On September 10, the remaining inspectors departed, leaving only the equipment to monitor the HOYA Test on September 14, 1991. Following the test the Soviet verification party returned to the site, collected the monitoring data, and signed, along with the senior American escort, the treaty inspection reports. [24]

These Soviet arms control actions and announcements demonstrated continuity. However, they were insignificant when placed against the deterioration of the Soviet Union in the fall of 1991. From August to November, the Soviet government lost legitimacy, the Soviet president lost power, and the Soviet economy collapsed. On December 1, 1991, the people of the Ukraine voted overwhelmingly for independence from the Soviet Union. Eight days later the presidents of Russia, Ukraine, and Belarus met in Minsk, Belarus, and declared the USSR defunct. They established a limited confederation, the Commonwealth of Independent States. Stripped of territory, population, military forces, and money, President Gorbachev's Soviet government collapsed on December 25, 1991, ending 70 years of the Union of Soviet Socialist Republics. These revolutionary developments influenced every aspect of the new states' domestic and foreign relations, including implementation of arms control treaties and agreements. [25]

Initially, on-site inspections and exhibitions under existing treaties, specifically, the INF, the TTBT, and START treaties, continued as under the previous government. However, in the spring and summer of 1992 there was evidence that a new sense of cooperation was developing among Russian, Eastern European, Western European, and American inspectors, negotiators, and arms control policy leaders. This was most apparent for the CFE Treaty. Multinational CFE trial inspections were conducted in the spring of 1992 by teams from the NATO nations and the nations of Eastern Europe and Russia. Versed in the treaty and its inspection protocols, these inspectors cooperated on an unprecedented scale. At OSIA's European Operations Command, Colonel William R. Smith, USAF, and Colonel Lawrence G. Kelley, USMC, and CFE inspection teams participated in a series of trial inspections with teams from Russia, Romania, Hungary, Bulgaria, Poland and Czechoslovakia.[26]

In March 1992 a new arms control agreement, the Open Skies Treaty, was signed in Helsinki by 25 nations, including the United States, NATO nations, Russia, Ukraine, Belarus, and Georgia. This agreement established an inspection regime of unarmed aerial flights over the entire territories of the 25 signatory nations. Covering national territory from Vancouver, Canada east to Vladivostok, Russia, this treaty in its scope is one of the most extensive agreements in modern times.[27]

As the United States' principal agency for conducting on-site inspections in these arms control treaties, the On-Site Inspection Agency participated directly in many of these new developments. General Parker and General Medvedev joined the multinational CFE trial inspection teams, reviewing in detail the inspection protocols with their senior team chiefs, linguists, and inspectors. Both directors served as on-site inspectors on the START exhibition teams, traveling to military bases in the United States and Russia to inspect, measure, and record the technical characteristics of the missile and bomber systems. Both generals participated in international meetings and seminars, discussing with experts and the public their INF experiences learned from conducting more than 850 on-site inspections. In Europe, both Parker and Medvedev participated in multinational planning meetings on implementing the inspection regime of the CFE Treaty.

In May, General Medvedev traveled from Moscow to Washington where he joined with General Parker in a briefing to the Middle East Regional Security and Arms Control Group which included representatives from Algeria, Bahrain, Egypt, Israel, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, United Arab Emirates, and Yemen. Richard A. Clarke, Assistant Secretary of State for Political-Military Affairs, hosted the 3-day meeting which focused on the methods and concepts in arms control from the U.S.-Soviet experience. Clarke characterized the meeting: "I think the briefing on the mission and work of OSIA [was] of great benefit to the Middle East states' familiarization process."[28] In June, in a somewhat similar vein, Dr. Edward M. Ifft, OSIA's Deputy Director for External Affairs, led a small group of experienced team chiefs, linguists, and commanders to seven of the successor states of the former Soviet Union. In the capital cities of the Ukraine, Belarus, Kazakhstan, Moldava, Georgia, Armenia, and Azerbaijan, they briefed the senior military and diplomatic staffs on the CFE Treaty, on-site inspection concepts and protocols, and the experiences learned from the INF Treaty.

Perhaps the clearest concrete indication of continuity occurred in July 1992. The Conventional Armed Forces in Europe Treaty entered into force, beginning mandatory data exchanges, on-site inspections, and scheduled reductions of military arms on the European continent, from the Urals to the Atlantic. With the collapse of the Soviet Union and the creation of new independent states, the number of treaty signatories increased to 29 nations. Representatives of these nations met in Helsinki, Finland at the Conference on Security and Cooperation in Europe and exchanged the treaty documents.[29] The actual date for the CFE Treaty's entry into force was July 17, 1992, the same day the 120-day baseline inspection period began. Just as with the INF Treaty, United States' inspection and escort teams were poised to inaugurate the CFE Treaty baseline inspections. U.S. Army Lt. Colonel Guy White led the first American CFE team as they inspected the Russian Army's 22nd Central Reserve Depot at Buy, Russia.[30] The nine-member team included officers and non-commissioned officers, linguists and armament specialists, team and subgroup leaders. During the inspection, Colonel White's team identified, counted, and recorded more than 1,200 Russian tanks and other treaty-limited equipment items.[31] This inspection was just the beginning, over the 120-day baseline period the United States and the other 15 NATO nations would be inspecting a portion of the more than 1,000 declared sites where conventional weapons were located in the former Warsaw Pact nations. General Parker, OSIA's Director, was an inspector

on that first CFE inspection team. Just before departing for Russia, a reporter asked him to compare previous arms control treaties with the CFE Treaty. Parker explained the treaty's size, complexity, and multinational aspects, and then concluded: "The CFE Treaty is the accumulation of just about every treaty worked out in the past few years."[32]

When one thinks about the breadth of these new arms control treaties, agreements, and developments, they dwarf the scope of the INF Treaty. All, however, were indebted to that treaty and the precedents it established. For in the final analysis, the INF Treaty can be considered a template for subsequent arms control agreements; a template carefully drawn, tempered through implementation, and closely watched for flaws and ambiguities. Like any good template, the pattern established for one set of materials could, if properly done, be applied to a different set. Perhaps it is time to incorporate into our knowledge of arms control treaties, the efforts of those nations and people who carried out "On-Site Inspections Under the INF Treaty."



NOTES: CHAPTER 9

[1]George Bush, *Public Papers of the President of the United States, 1990*, Book 1, (Government Printing Office) pp. 747-751; *Washington Post*, June 1, 1990, p.1.; Washington Times, June 1, 1990, p1.

[2]*Treaty Between the United States of American and the Union of Soviet Socialist Republics on the Limitation of Underground Nuclear Weapon Tests, with Protocols, July 3, 1974, June 1, 1990.* See also: *Treaty Between the United States of America and the Union of Soviet Socialist Republics on Underground Nuclear Explosions for Peaceful Purposes, with Protocols, May 28, 1976, June 1, 1990.* These two treaties had been signed, but not ratified, pending agreement on the new protocols.

[3]Major General Robert W. Parker (USAF), OSIA Director, "Statement Before the House of Representatives Foreign Affairs Subcommittee on Arms Control, International Security, and Science," March 21, 1991. In his statement, Parker discusses President Bush's directive.

[4]Ibid. See also, Statement of US State Department Counselor Richard Holwill, *Congressional Record*, Senate 13707.

[5]*Baltimore Sun*, September 26, 1990, p 1; Tass, October 9, 1990, in *FBIS-Soviet Union*, October 10, 1990.

[6]Brigadier General Lajoie, "Statement Before the US Senate Select Committee on Intelligence," August 2, 1990.

[7]*Treaty on Conventional Forces in Europe, November 19, 1990.*

[8]OSIA Office of Public Affairs, *On-Site Insights*, December, 1990, pp 3-4.

[9]Parker, "Foreign Affairs Subcommittee," March 21, 1991; Major General Parker, "Statement Before the Senate Foreign Relations Subcommittee on the Conventional Forces in Europe Treaty," July 25, 1991.

[10]Reuters, "Bush Signs 2 Pacts Limiting Underground Nuclear Tests," *New York Times*, December 11, 1990, p. A13.

[11]*Arms Control Reporter*, March 21, 1991,p.605.B116.

[12]*Tass*, May 30, 1991, in *FBIS-Soviet Union*, May 31, 1991.

[13]OSIA Office of Public Affairs, *On-Site Insights*, January 1991, p 1, February 1991, pp 1-2.

[14]See Chapter 6, INF Elimination Inspections, for a statistical account of this final phase of eliminations.

[15]Major General Robert Parker, "Statement Before House Foreign Affairs Subcommittee on Arms Control, International Security and Science," May 12, 1992.
[16]Parker, "House Foreign Affairs Subcommittee," May 12, 1992.

[17]Remarks of Gorbachev and Bush from White House transcript, Moscow, July 31, 1991, cited in *Arms Control Reporter, 1991*, 611.B.689. R.W. Apple, Jr., "Bush and Gorbachev Sign Pact to Curtail Nuclear Arsenals; Join in Call for Mideast Talks," *New York Times*, August 1, 1991, pp. A1, A11. See also: Associated Press, "We have Achieved the Best That is Now Possible," and "We 'Sign the Treaty' As Testament to New Relationship," *Washington Post*, August 1, 1991, p. A25.

[18]*New York Times*, August 19, 1991, p 1, August 20-25, pp1-passim.

[19]Gary P. Marino, "Routine mail run - anything, but routine." On-Site Insights' September 1991, p.7-8.

[20]Ibid. Interview, Master Sergeant Gary P. Marino, U.S. Army, September 9, 1992.

[21]General Robert Parker, "Statement before the Senate Foreign Relations Committee on the Implementation of the Strategic Arms Reduction Treaty," June 30, 1992; General Robert Parker, "Statement before the Senate Armed Services Subcommittee on Strategic Forces and Nuclear Deterrence," April 28, 1992.

[22]*Arms Control Today*, November, 1991, Start Treaty Supplement, pp.1-24.

[23]*Arms Control Reporter, 1992*, pp 608.B.220-221; *Arms Control Reporter, 1991*, pp 605.B.118-119.

[24]*Arms Control Reporter*, 1991, pp.605B. 118-119

[25]*New York Times*, December 2, 1991, p..2, December 9, p. 1, December 26, p. 1.

[26]Parker, "Senate Armed Services Subcommittee," April 28, 1992.

[27]For the Open Skies Treaty, see Peter Jones, "Open Skies: A New Era of Transparency," *Arms Control Today*, May 1992, pp 10-15. 24OSIA Office of Public Affairs, *On-Site Insights*, May 1992, pp 10-15.

[28]OSIA Office of Public Affairs, *On-Site Insights*, May 1992, p 1.

[29]"Europeans Agree To Honor Pact By Old Blocks," *New York Times*, June 6, 1992, p. 5.

[30]"U.S. Inspection Team Readies For CIS Tasks," *Stars and Stripes*, July 18, 1992 pp 1-2; "Historic Arms Cut Takes Effect," *Associated Press*, July 17, 1992; OSIA Office of Public Affairs, *On-Site Insights*, August1992, p. 5, 9.

[31]*On-Site Insights*, p. 5.

[32]*Stars and Stripes*, July 18, 1992, p. 2.

APPENDICES

APPENDIX A

Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles

The United States of America and the Union of Soviet Socialist Republics, hereinafter referred to as the Parties,

Conscious that nuclear war would have devastating consequences for all mankind,

Guided by the objective of strengthening strategic stability,

Convinced that the measures set forth in this Treaty will help to reduce the risk of outbreak of war and strengthen international peace and security, and

Mindful of their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons,

Have agreed as follows:

Article I

In accordance with the provisions of this Treaty which includes the Memorandum of Understanding and Protocols which form an integral part thereof, each Party shall eliminate its intermediate-range and shorter-range missiles, not have such systems thereafter, and carry out the other obligations set forth in this Treaty.

Article II

For the purposes of this Treaty:

1. The term "ballistic missile" means a missile that has a ballistic trajectory over most of its flight path. The term "ground-launched ballistic missile (GLBM)" means a ground-launched ballistic missile that is a weapon-delivery vehicle.

2. The term "cruise missile" means an unmanned, self-propelled vehicle that sustains flight through the use of aerodynamic lift over most of its flight path. The term "ground-launched cruise missile (GLCM)" means a ground-launched cruise missile that is a weapon-delivery vehicle.

3. The term "GLBM launcher" means a fixed launcher or a mobile land-based transporter-erector-launcher mechanism for launching a GLBM.

4. The term "GLCM launcher" means a fixed launcher or a mobile land-based transporter-erector-launcher mechanism for launching a GLCM.

5. The term "intermediate-range missile" means a GLBM or a GLCM having a range capability in excess of 1000 kilometers but not in excess of 5500 kilometers.

6. The term "shorter-range missile" means a GLBM or a GLCM having a range capability equal to or in excess of 500 kilometers but not in excess of 1000 kilometers.

7. The term "deployment area" means a designated area within which intermediate-range missiles and launchers of such missiles may operate and within which one or more missile operating bases are located.

8. The term "missile operating base" means:

(a) in the case of intermediate-range missiles, a complex of facilities located within a deployment area at which intermediate-range missiles and launchers of such missiles normally operate, in which support structures associated with such missiles and launchers are also located and in which support equipment associated with such missiles and launchers is normally located; and

(b) in the case of shorter-range missiles, a complex of facilities located any place at which shorter-range missiles and launchers of such missiles normally operate and in which support equipment associated with such missiles and launchers is normally located.

9. The term "missile support facility," as regards intermediate-range or shorter-range missiles and launchers of such missiles, means a missile production facility or a launcher production facility, a missile repair facility or a launcher repair facility, a training facility, a missile storage facility or a launcher storage facility, a test range, or an elimination facility as those terms are defined in the Memorandum of Understanding.

10. The term "transit" means movement, notified in accordance with paragraph 5(f) of Article IX of this Treaty, of an intermediate-range missile or a launcher of such a missile between missile support facilities, between such a facility and a deployment area or between deployment areas, or of a shorter-range missile or a launcher of such a missile from a missile support facility or missile operating base to an elimination facility.

11. The term "deployed missile" means an intermediate-range missile located within a deployment area or a shorter-range missile located at a missile operating base.

12. The term "non-deployed missile" means an intermediate-range missile located outside a deployment area or a shorter-range missile located outside a missile operating base.

13. The term "deployed launcher" means a launcher of an intermediate-range missile located within a deployment area or a launcher of a shorter-range missile located at a missile operating base.

14. The term "non-deployed launcher" means a launcher of an intermediate-range missile located outside a deployment area or a launcher of a shorter-range missile located outside a missile operating base.

15. The term "basing country" means a country other than the United States of America or the Union of Soviet Socialist Republics on whose territory intermediate-range or shorter-range missiles of the Parties, launchers of such missiles or support structures associated with such missiles and launchers were located at any time after November 1, 1987. Missiles or launchers in transit are not considered to be "located."

Article III

1. For the purposes of this Treaty, existing types of intermediate-range missiles are:

(a) for the United States of America, missiles of the types designated by the United States of America as the Pershing II and the BGM-109G, which are known to the Union of Soviet Socialist Republics by the same designations; and

(b) for the Union of Soviet Socialist Republics, missiles of the types designated by the Union of Soviet Socialist Republics as the RSD-10, the R-12 and the R-14, which are known to the United States of America as the SS-20, the SS-4 and the SS-5, respectively.

2. For the purposes of this Treaty, existing types of shorter-range missiles are:

(a) for the United States of America, missiles of the type designated by the United States of America as the Pershing IA, which is known to the Union of Soviet Socialist Republics by the same designation; and

(b) for the Union of Soviet Socialist Republics, missiles of the types designated by the Union of Soviet Socialist Republics as the OTR-22 and the OTR-23, which are known to the United States of America as the SS-12 and the SS-23, respectively.

Article IV

1. Each Party shall eliminate all its intermediate-range missiles and launchers of such missiles, and all support structures and support equipment of the categories listed in the Memorandum of Understanding associated with such missiles and launchers, so that no later than three years after entry into force of this Treaty and thereafter no such missiles, launchers, support structures or support equipment shall be possessed by either Party.

2. To implement paragraph 1 of this Article, upon entry into force of this Treaty, both Parties shall begin and continue throughout the duration of each phase, the reduction of all types of their deployed and non-deployed intermediate-range missiles and deployed and non-deployed launchers of such missiles and support structures and support equipment associated with such missiles and launchers in accordance with the provisions of this Treaty. These reductions shall be implemented in two phases so that:

(a) by the end of the first phase, that is, no later than 29 months after entry into force of this Treaty:

(i) the number of deployed launchers of intermediate-range missiles for each Party shall not exceed the number of launchers that are capable of carrying or containing at one time missiles considered by the Parties to carry 171 warheads;

(ii) the number of deployed intermediate-range missiles for each Party shall not exceed the number of such missiles considered by the Parties to carry 180 warheads;

(iii) the aggregate number of deployed and non-deployed launchers of intermediate-range missiles for each Party shall not exceed the number of launchers that are capable of carrying or containing at one time missiles considered by the Parties to carry 200 warheads;

(iv) the aggregate number of deployed and non-deployed intermediate-range missiles for each Party shall not exceed the number of such missiles considered by the Parties to carry 200 warheads; and

(v) the ratio of the aggregate number of deployed and non-deployed intermediate-range GLBMs of existing types for each Party to the aggregate number of deployed and non-deployed intermediate-range missiles of existing types possessed by that Party shall not exceed the ratio of such intermediate-range GLBMs to such intermediate-range missiles for that Party as of November 1, 1987, as set forth in the Memorandum of Understanding; and

(b) by the end of the second phase, that is, no later than three years after entry into force of this Treaty, all intermediate-range missiles of each Party, launchers of such missiles and all support structures and support equipment of the categories listed in the Memorandum of Understanding associated with such missiles and launchers, shall be eliminated.

Article V

1. Each Party shall eliminate all its shorter-range missiles and launchers of such missiles, and all support equipment of the categories listed in the Memorandum of Understanding associated with such missiles and launchers, so that no later than 18 months after entry into force of this Treaty and thereafter no such missiles, launchers or support equipment shall be possessed by either Party.

2. No later than 90 days after entry into force of this Treaty, each Party shall complete the removal of all its deployed shorter-range missiles and deployed and non-deployed launchers of such missiles to elimination facilities and shall retain them at those locations until they are eliminated in accordance with the procedures set forth in the Protocol on Elimination. No later than 12 months after entry into force of this Treaty, each Party shall complete the removal of all its non-deployed shorter-range missiles to elimination facilities and shall retain them at those locations until they are eliminated in accordance with the procedures set forth in the Protocol on Elimination.

3. Shorter-range missiles and launchers of such missiles shall not be located at the same elimination facility. Such facilities shall be separated by no less than 1000 kilometers.

Article VI

1. Upon entry into force of this Treaty and thereafter, neither Party shall:

(a) produce or flight-test any intermediate-range missiles or produce any stages of such missiles or any launchers of such missiles; or

(b) produce, flight-test or launch any shorter-range missiles or produce

any stages of such missiles or any launchers of such missiles.

2. Notwithstanding paragraph 1 of this Article, each Party shall have the right to produce a type of GLBM not limited by this Treaty which uses a stage which is outwardly similar to, but not interchangeable with, a stage of an existing type of intermediate-range GLBM having more than one stage, providing that that Party shall not produce any other stage which is outwardly similar to, but not interchangeable with, any other stage of an existing type of intermediate-range GLBM.

Article VII

For the purposes of this Treaty:

1. If a ballistic missile or a cruise missile has been flight-tested or deployed for weapon delivery, all missiles of that type shall be considered to be weapon-delivery vehicles.

2. If a GLBM or GLCM is an intermediate-range missile, all GLBMs or GLCMs of that type shall be considered to be intermediate-range missiles. If a GLBM or GLCM is a shorter-range missile, all GLBMs or GLCMs of that type shall be considered to be shorter-range missiles.

3. If a GLBM is of a type developed and tested solely to intercept and counter objects not located on the surface of the earth, it shall not be considered to be a missile to which the limitations of this Treaty apply.

4. The range capability of a GLBM not listed in Article III of this Treaty shall be considered to be the maximum range to which it has been tested. The range capability of a GLCM not listed in Article III of this Treaty shall be considered to be the maximum distance which can be covered by the missile in its standard design mode flying until fuel exhaustion, determined by projecting its flight path onto the earth's sphere from the point of launch to the point of impact. GLBMs or GLCMs that have a range capability equal to or in excess of 500 kilometers but not in excess of 1000 kilometers shall be considered to be shorter-range missiles. GLBMs or GLCMs that have a range capability in excess of 1000 kilometers but not in excess of 5500 kilometers shall be considered to be intermediate-range missiles.

5. The maximum number of warheads an existing type of intermediate-range missile or shorter-range missile carries shall be considered to be the number listed for missiles of that type in the Memorandum of Understanding.

6. Each GLBM or GLCM shall be considered to carry the maximum number of warheads listed for a GLBM or GLCM of that type in the Memorandum of Understanding.

7. If a launcher has been tested for launching a GLBM or a GLCM, all launchers of that type shall be considered to have been tested for launching GLBMs or GLCMs.

8. If a launcher has contained or launched a particular type of GLBM or GLCM, all launchers of that type shall be considered to be launchers of that type of GLBM or GLCM.

9. The number of missiles each launcher of an existing type of intermediate-range missile or shorter-range missile shall be considered to be capable of carrying or containing at one time is the number listed for launchers of missiles of that type in the Memorandum of Understanding.

10. Except in the case of elimination in accordance with the procedures set forth in the Protocol on Elimination, the following shall apply:

(a) for GLBMs which are stored or moved in separate stages, the longest stage of an intermediate-range or shorter-range GLBM shall be counted as a complete missile;

(b) for GLBMs which are not stored or moved in separate stages, a canister of the type used in the launch of an intermediate-range GLBM, unless a Party proves to the satisfaction of the other Party that it does not contain such a missile, or an assembled intermediate-range or shorter-range GLBM, shall be counted as a complete missile; and

(c) for GLCMs, the airframe of an intermediate-range or shorter-range GLCM shall be counted as a complete missile.

11. A ballistic missile which is not a missile to be used in a ground-based mode shall not be considered to be a GLBM if it is test-launched at a test site from a fixed land-based launcher which is used solely for test purposes and which is distinguishable from GLBM launchers. A cruise missile which is not a missile to be used in a ground-based mode shall not be considered to be a GLCM if it is test-launched at a test site from a fixed land-based launcher which is used solely for test purposes and which is distinguishable from GLCM launchers.

12. Each Party shall have the right to produce and use for booster systems, which might otherwise be considered to be intermediate-range or shorter-range missiles, only existing types of booster stages for such booster systems. Launches of such booster systems shall not be considered to be flight-testing of intermediate-range or shorter-range missiles provided that:

(a) stages used in such booster systems are different from stages used in those missiles listed as existing types of intermediate-range or shorter-range missiles in Article III of this Treaty;

(b) such booster systems are used only for research and development purposes to test objects other than the booster systems themselves;

(c) the aggregate number of launchers for such booster systems shall not exceed 35 for each Party at any one time; and

(d) the launchers for such booster systems are fixed, emplaced above ground and located only at research and development launch sites which are specified in the Memorandum of Understanding.

Research and development launch sites shall not be subject to inspection pursuant to Article XI of this Treaty.

Article VIII

1. All intermediate-range missiles and launchers of such missiles shall be located in deployment areas, at missile support facilities or shall be in transit. Intermediate-range missiles or launchers of such missiles shall not be located elsewhere.

2. Stages of intermediate-range missiles shall be located in deployment areas, at missile support facilities or moving between deployment areas, between missile support facilities or between missile support facilities and deployment areas.

3. Until their removal to elimination facilities as required by paragraph 2 of Article V of this Treaty, all shorter-range missiles and launchers of such missiles shall be located at missile operating bases, at missile support facilities or shall be in transit. Shorter-range missiles or launchers of such missiles shall not be located elsewhere.

4. Transit of a missile or launcher subject to the provisions of this Treaty shall be completed within 25 days.

5. All deployment areas, missile operating bases and missile support facilities are specified in the Memorandum of Understanding or in subsequent updates of data pursuant to paragraphs 3, 5(a) or 5(b) of Article IX of this Treaty. Neither Party shall increase the number of, or change the location or boundaries of, deployment areas, missile operating bases or missile support facilities, except for elimination facilities, from those set forth in the Memorandum of Understanding. A missile support facility shall not be considered to be part of a deployment area even though it may be located within the geographic boundaries of a deployment area.

6. Beginning 30 days after entry into force of this Treaty, neither Party shall locate intermediate-range or shorter-range missiles, including stages of such missiles, or launchers of such missiles at missile production facilities, launcher production facilities or test ranges listed in the Memorandum of Understanding.

7. Neither Party shall locate any intermediate-range or shorter-range missiles at training facilities.

8. A non-deployed intermediate-range or shorter-range missile shall not be carried on or contained within a launcher of such a type of missile, except as required for maintenance conducted at repair facilities or for elimination by means of launching conducted at elimination facilities.

9. Training missiles and training launchers for intermediate-range or shorter-range missiles shall be subject to the same locational restrictions as are set forth for intermediate-range and shorter-range missiles and launchers of such missiles in paragraphs 1 and 3 of this Article.

Article IX

1. The Memorandum of Understanding contains categories of data relevant to obligations undertaken with regard to this Treaty and lists all intermediate-range and shorter-range missiles, launchers of such missiles, and support structures and support equipment associated with such missiles and launchers, possessed by the Parties as of November 1, 1987. Updates of that data and notifications required by this Article shall be provided according to the categories of data contained in the Memorandum of Understanding.

2. The Parties shall update that data and provide the notifications required by this Treaty through the Nuclear Risk Reduction Centers, established pursuant to the Agreement Between the United States of America and the Union of Soviet Socialist Republics on the Establishment of Nuclear Risk Reduction Centers of September 15, 1987.

3. No later than 30 days after entry into force of this Treaty, each Party shall provide the other Party with updated data, as of the date of entry into force of this Treaty, for all categories of data contained in the Memorandum of Understanding.

4. No later than 30 days after the end of each six-month interval following the entry into force of this Treaty, each Party shall provide updated data for all categories of data contained in the Memorandum of Understanding by informing the other Party of all changes, completed and in process, in that data, which have occurred during the six-month interval since the preceding data exchange, and the net effect of those changes.

5. Upon entry into force of this Treaty and thereafter, each Party shall provide the following notifications to the other Party:

(a) notification, no less than 30 days in advance, of the scheduled date of the elimination of a specific deployment area, missile operating base or missile support facility;

(b) notification, no less than 30 days in advance, of changes in the number or location of elimination facilities, including the location and scheduled date of a change;

(c) notification, except with respect to launches of intermediate-range missiles for the purpose of their elimination, no less than 30 days in advance, of the scheduled date of the initiation of the elimination of intermediate-range and shorter-range missiles, and stages of such missiles, and launchers of such missiles and support structures and support equipment associated with such missiles and launchers, including:

(i) the number and type of items of missile systems to be eliminated;

(ii) the elimination site;

(iii) for intermediate-range missiles, the location from which such missiles, launchers of such missiles and support equipment associated with such missiles and launchers are moved to the elimination facility; and

(iv) except in the case of support structures, the point of entry to be used by an inspection team conducting an inspection pursuant to paragraph 7 of Article XI of this Treaty and the estimated time of departure of an inspection team from the point of entry to the elimination facility;

(d) notification, no less than ten days in advance, of the scheduled date of the launch, or the scheduled date of the initiation of a series of launches, of intermediate-range missiles for the purpose of their elimination, including:

(i) the type of missiles to be eliminated;

(ii) location of the launch, or, if elimination is by a series of launches, the location of such launches and number of launches in the series;

(iii) the point of entry to be used by an inspection team conducting an inspection pursuant to paragraph 7 of Article XI of this Treaty; and

(iv) the estimated time of departure of an inspection team from the point of entry to the elimination facility;

(e) notification, no later than 48 hours after they occur, of changes in the number of intermediate-range and shorter-range missiles, launchers of such missiles and support structures and support equipment associated with such missiles and launchers resulting from elimination as described in the Protocol on Elimination, including:

(i) the number and type of items of a missile system which were eliminated; and

(ii) the date and location of such elimination; and

(f) notification of transit of intermediate-range or shorter-range missiles or launchers of such missiles, or the movement of training missiles or training launchers for such intermediate-range and shorter-range missiles, no later than 48 hours after it has been completed, including:

(i) the number of missiles or launchers;

(ii) the points, dates and times of departure and arrival;

(iii) the mode of transport; and

(iv) the location and time at that location at least once every four days during the period of transit.

6. Upon entry into force of this Treaty and thereafter, each Party shall notify the other Party, no less than ten days in advance, of the scheduled date and location of the launch of a research and development booster system as described in paragraph 12 of Article VII of this Treaty.

Article X

1. Each Party shall eliminate its intermediate-range and shorter-range missiles and launchers of such missiles and support structures and support equipment associated with such missiles and launchers in accordance with the procedures set forth in the Protocol on Elimination.

2. Verification by on-site inspection of the elimination of items of missile systems specified in the Protocol on Elimination shall be carried out in accordance with Article XI of this Treaty, the Protocol on Elimination and the Protocol on Inspection.

3. When a Party removes its intermediate-range missiles, launchers of such missiles and support equipment associated with such missiles and launchers from deployment areas to elimination facilities for the purpose of their elimination, it shall do so in complete deployed organizational units. For the United States of America, these units shall be Pershing II batteries and BGM-109G flights. For the Union of Soviet Socialist Republics, these units shall be SS-20 regiments composed of two or three battalions.

4. Elimination of intermediate-range and shorter-range missiles and launchers of such missiles and support equipment associated with such missiles and launchers shall be carried out at the facilities that are specified in the Memorandum of Understanding or notified in accordance with paragraph 5(b) of Article IX of this Treaty, unless eliminated in accordance with Sections IV or V of the Protocol on Elimination. Support structures, associated with the missiles and launchers subject to this Treaty, that are subject to elimination shall be eliminated *in situ*.

5. Each Party shall have the right, during the first six months after entry into force of this Treaty, to eliminate by means of launching no more than 100 of its intermediate-range missiles.

6. Intermediate-range and shorter-range missiles which have been tested prior to entry into force of this Treaty, but never deployed, and which are not existing types of intermediate-range or shorter-range missiles listed in Article III of this Treaty, and launchers of such missiles, shall be eliminated within six months after entry into force of this Treaty in accordance with the procedures set forth in the Protocol on Elimination. Such missiles are:

(a) for the United States of America, missiles of the type designated by the United States of America as the Pershing IB, which is known to the Union of Soviet Socialist Republics by the same designation; and

(b) for the Union of Soviet Socialist Republics, missiles of the type designated by the Union of Soviet Socialist Republics as the RK-55, which is known to the United States of America as the SSC-X-4.

7. Intermediate-range and shorter-range missiles and launchers of such missiles and support structures and support equipment associated with such missiles and launchers shall be considered to be eliminated after completion of the procedures set forth in the Protocol on Elimination and upon the notification provided for in paragraph 5(e) of Article IX of this Treaty.

8. Each Party shall eliminate its deployment areas, missile operating bases and missile support facilities. A Party shall notify the other Party pursuant to paragraph 5(a) of Article IX of this Treaty once the conditions set forth below are fulfilled:

(a) all intermediate-range and shorter-range missiles, launchers of such missiles and support equipment associated with such missiles and launchers located there have been removed;

(b) all support structures associated with such missiles and launchers located there have been eliminated; and

(c) all activity related to production, flight-testing, training, repair, storage or deployment of such missiles and launchers has ceased there.

Such deployment areas, missile operating bases and missile support facilities shall be considered to be eliminated either when they have been inspected pursuant to paragraph 4 of Article XI of this Treaty or when 60 days have elapsed since the date of the scheduled elimination which was notified pursuant to paragraph 5(a) of Article IX of this Treaty. A deployment area, missile operating base or missile support facility listed in the Memorandum of Understanding that met the above conditions prior to entry into force of this Treaty, and is not included in the initial data exchange pursuant to paragraph 3 of Article IX of this Treaty, shall be considered to be eliminated.

9. If a Party intends to convert a missile operating base listed in the Memorandum of Understanding for use as a base associated with GLBM or GLCM systems not subject to this Treaty, then that Party shall notify the other Party, no less than 30 days in advance of the scheduled date of the initiation of the conversion, of the scheduled date and the purpose for which the base will be converted.

Article XI

1. For the purpose of ensuring verification of compliance with the provisions of this Treaty, each Party shall have the right to conduct on-site inspections. The Parties shall implement on-site inspections in accordance with this Article, the Protocol on Inspection and the Protocol on Elimination.

2. Each Party shall have the right to conduct inspections provided for by this Article both within the territory of the other Party and within the territories of basing countries.

3. Beginning 30 days after entry into force of this Treaty, each Party shall have the right to conduct inspections at all missile operating bases and missile support facilities specified in the Memorandum of Understanding other than missile production facilities, and at all elimination facilities included in the initial data update required by paragraph 3 of Article IX of this Treaty. These inspections shall be completed no later than 90 days after entry into force of this Treaty. The purpose of these inspections shall be to verify the number of missiles, launchers, support structures and support equipment and other data, as of the date of entry into force of this Treaty, provided pursuant to paragraph 3 of Article IX of this Treaty.

4. Each Party shall have the right to conduct inspections to verify the elimination, notified pursuant to paragraph 5(a) of Article IX of this Treaty, of missile operating bases and missile support facilities other than missile production facilities, which are thus no longer subject to inspections pursuant to paragraph 5(a) of this Article. Such an inspection shall be carried out within 60 days after the scheduled date of the elimination of that facility. If a Party conducts an inspection at a particular facility pursuant to paragraph 3 of this Article after the scheduled date of the elimination of that facility, then no additional inspection of that facility pursuant to this paragraph shall be permitted.

5. Each Party shall have the right to conduct inspections pursuant to this paragraph for 13 years after entry into force of this Treaty. Each Party shall have the right to conduct 20 such inspections per calendar year during the first three years after entry into force of this Treaty, 15 such inspections per calendar year during the subsequent five years, and ten such inspections per calendar year during the last five years. Neither Party shall use more than half of its total number of these inspections per calendar year within the territory of any one basing country. Each Party shall have the right to conduct:

(a) inspections, beginning 90 days after entry into force of this Treaty, of missile operating bases, and missile support facilities other than elimination facilities and missile production facilities, to ascertain, according to the categories of data specified in the Memorandum of Understanding, the numbers of missiles, launchers, support structures and support equipment located at each missile operating base or missile support facility at the time of the inspection; and

(b) inspections of former missile operating bases and former missile support facilities eliminated pursuant to paragraph 8 of Article X of this Treaty other than former missile production facilities.

6. Beginning 30 days after entry into force of this Treaty, each Party shall have the right, for 13 years after entry into force of this Treaty, to inspect by means of continuous monitoring:

(a) the portals of any facility of the other Party at which the final assembly of a GLBM using stages, any of which is outwardly similar to a stage of a solid-propellant GLBM listed in Article III of this Treaty, is accomplished; or

(b) if a Party has no such facility, the portals of an agreed former missile production facility at which existing types of intermediate-range or shorter-range GLBMs were produced.

The Party whose facility is to be inspected pursuant to this paragraph shall ensure that the other Party is able to establish a permanent continuous monitoring system at that facility within six months after entry into force of this Treaty or within six months of initiation of the process of final assembly described in subparagraph (a). If, after the end of the second year after entry into force of this Treaty, neither Party conducts the process of final assembly described in subparagraph (a) for a period of 12 consecutive months, then neither Party shall have the right to inspect by means of continuous monitoring any missile production facility of the other Party unless the process of final assembly as described in subparagraph (a) is initiated again. Upon entry into force of this Treaty, the facilities to be inspected by continuous monitoring shall be: in accordance with subparagraph (b), for the United States of America, Hercules Plant Number 1, at Magna, Utah; in accordance with subparagraph (a), for the Union of Soviet Socialist Republics, the Votkinsk Machine Building Plant, Udmurt Autonomous Soviet Socialist Republic, Russian Soviet Federative Socialist Republic.

7. Each Party shall conduct inspections of the process of elimination, including elimination of intermediate-range missiles by means of launching, of intermediate-range and shorter-range missiles and launchers of such missiles and support equipment associated with such missiles and launchers carried out at elimination facilities in accordance with Article X of this Treaty and the Protocol on Elimination. Inspectors conducting inspections provided for in this paragraph shall determine that the processes specified for the elimination of the missiles, launchers and support equipment have been completed.

8. Each Party shall have the right to conduct inspections to confirm the completion of the process of elimination of intermediate-range and shorter-range missiles and launchers of such missiles and support equipment associated with such missiles and launchers eliminated pursuant to Section V of the Protocol on Elimination, and of training missiles, training missile stages, training launch canisters and training launchers eliminated pursuant to Sections II, IV and V of the Protocol on Elimination.

Article XII

1. For the purpose of ensuring verification of compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.

2. Neither Party shall:

(a) interfere with national technical means of verification of the

other Party operating in accordance with paragraph 1 of this Article; or

(b) use concealment measures which impede verification of compliance with the provisions of this Treaty by national technical means of verification carried out in accordance with paragraph 1 of this Article. This obligation does not apply to cover or concealment practices, within a deployment area, associated with normal training, maintenance and operations, including the use of environmental shelters to protect missiles and launchers.

3. To enhance observation by national technical means of verification, each Party shall have the right until a treaty between the Parties reducing and limiting strategic offensive arms enters into force, but in any event for no more than three years after entry into force of this Treaty, to request the implementation of cooperative measures at deployment bases for road-mobile GLBMs with a range capability in excess of 5500 kilometers, which are not former missile operating bases eliminated pursuant to paragraph 8 of Article X of this Treaty. The Party making such a request shall inform the other Party of the deployment base at which cooperative measures shall be implemented. The Party whose base is to be observed shall carry out the following cooperative measures:

(a) No later than six hours after such a request, the Party shall have opened the roofs of all fixed structures for launchers located at the base, removed completely all missiles on launchers from such fixed structures for launchers and displayed such missiles on launchers in the open without using concealment measures; and

(b) The Party shall leave the roofs open and the missiles on launchers in place until twelve hours have elapsed from the time of the receipt of a request for such an observation.

Each Party shall have the right to make six such requests per calendar year. Only one deployment base shall be subject to these cooperative measures at any one time.

Article XIII

1. To promote the objectives and implementation of the provisions of this Treaty, the Parties hereby establish the Special Verification Commission. The Parties agree that, if either Party so requests, they shall meet within the framework of the Special Verification Commission to:

(a) resolve questions relating to compliance with the obligations assumed; and

(b) agree upon such measures as may be necessary to improve the viability and effectiveness of this Treaty.

2. The Parties shall use the Nuclear Risk Reduction Centers, which provide for continuous communication between the Parties, to:

(a) exchange data and provide notifications as required by paragraphs 3, 4, 5 and 6 of Article IX of this Treaty and the Protocol on Elimination;

(b) provide and receive the information required by paragraph 9 of Article X of this Treaty;

(c) provide and receive notifications of inspections as required by Article XI of this Treaty and the Protocol on Inspection; and

(d) provide and receive requests for cooperative measures as provided for in paragraph 3 of Article XII of this Treaty.

Article XIV

The Parties shall comply with this Treaty and shall not assume any international obligations or undertakings which would conflict with its provisions.

Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to withdraw to the other Party six months prior to withdrawal from this Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

Article XVI

Each Party may propose amendments to this Treaty. Agreed amendments shall enter into force in accordance with the procedures set forth in Article XVII governing the entry into force of this Treaty.

Article XVII

1. This Treaty, including the Memorandum of Understanding and Protocols, which form an integral part thereof, shall be subject to ratification in accordance with the constitutional procedures of each Party. This Treaty shall enter into force on the date of the exchange of instruments of ratification.

2. This Treaty shall be registered pursuant to Article 102 of the Chapter of the United Nations.

DONE at Washington on December 8, 1987, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA

RONALD REAGAN

President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS

M. GORBACHEV

General Secretary of the Central Committee of the CPSU

Memorandum of Understanding Regarding the Establishment of the Data Base for the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Elimination of Their Intermediate-Range and Shorter-Range Missiles

Pursuant to and in implementation of the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Elimination of Their Intermediate-Range and Shorter-Range Missiles of December 8, 1987, hereinafter referred to as the Treaty, the Parties have exchanged data current as of November 1, 1987, on intermediate-range and shorter-range missiles and launchers of such missiles and support structures and support equipment associated with such missiles and launchers.

I. Definitions

For the purposes of this Memorandum of Understanding, the Treaty, the Protocol on Elimination and the Protocol on Inspection:

1. The term "missile production facility" means a facility for the assembly or production of solid-propellant intermediate-range or shorter-range GLBMs, or existing types of GLCMs.

2. The term "missile repair facility" means a facility at which repair or maintenance of intermediate-range or shorter-range missiles takes place other than inspection and maintenance conducted at a missile operating base.

3. The term "launcher production facility" means a facility for final assembly of launchers of intermediate-range or shorter-range missiles.

4. The term "launcher repair facility" means a facility at which repair or maintenance of launchers of intermediate-range or shorter-range missiles takes place other than inspection and maintenance conducted at a missile operating base.

5. The term "test range" means an area at which flight-testing of intermediate-range or shorter-range missiles takes place.

6. The term "training facility" means a facility, not at a missile operating base, at which personnel are trained in the use of intermediate-range or shorter-range missiles or launchers of such missiles and at which launchers of such missiles are located.

7. The term "missile storage facility" means a facility, not at a missile operating base, at which intermediate-range or shorter-range missiles or stages of such missiles are stored.

8. The term "launcher storage facility" means a facility, not at a missile operating base, at which launchers of intermediate-range or shorter-range missiles are stored.

9. The term "elimination facility" means a facility at which intermediate-range or shorter-range missiles, missile stages and launchers of such missiles or support equipment associated with such missiles or launchers are eliminated.

10. The term "support equipment" means unique vehicles and mobile or transportable equipment that support a deployed intermediate-range or shorter-range missile or a launcher of such a missile. Support equipment shall include full-scale inert training missiles, full-scale inert training missile stages, full-scale inert training launch canisters, and training launchers not capable of launching a missile. A listing of such support equipment associated with each existing type of missile, and launchers of such missiles, except for training equipment, is contained in Section VI of this Memorandum of Understanding.

11. The term "support structure" means a unique fixed structure used to support deployed intermediate-range missiles or launchers of such missiles. A listing of such support structures associated with each existing type of missile, and launchers of such missiles, except for training equipment, is contained in Section VI of this Memorandum of Understanding.

12. The term "research and development launch site" means a facility at which research and development booster systems are launched.

II. Total Numbers of Intermediate-Range and Shorter-Range Missiles and Launchers of Such Missiles Subject to the Treaty

1. The numbers of intermediate-range missiles and launchers of such missiles for each Party are as follow:

	USA	USSR
Deployed missiles	429	470
Non-deployed missiles	260	356
Aggregate number of deployed and non-deployed missiles	689	826
Aggregate number of second stages	236	650
Deployed launchers	214	484
Non-deployed launchers	68	124
Aggregate number of deployed and non-deployed launchers	282	608

2. The numbers of shorter-range missiles and launchers of such missiles for each Party are as follow:

	USA	USSR
Deployed missiles	0	387
Non-deployed missiles	170	539
Aggregate number of deployed and non-deployed missiles	170	926
Aggregate number of second stages	175	726
Deployed launchers	0	197
Non-deployed launchers	1	40
Aggregate number of deployed and non-deployed launchers	1	237

III. Intermediate-Range Missiles, Launchers of Such Missiles and Support Structures and Support Equipment Associated With Such Missiles and Launchers

1. Deployed

The following are the deployment areas, missile operating bases, their locations and the numbers, for each Party of all deployed intermediate-range missiles listed as existing types in Article III of the Treaty, launchers of such missiles and the support structures and support equipment associated with such missiles and launchers. Site diagrams, to include boundaries and center coordinates, of each listed missile operating base are appended to this Memorandum of Understanding.[1] The boundaries of deployment areas are indicated by specifying geographic coordinates, connected by straight lines or linear landmarks, to include national boundaries, rivers, railroads or highways.

[1] For information on the availability of site diagrams and accompanying photographs, call or write: Public Information Service, Bureau of Public Affairs, U.S. Department of State, 2201 C Street, NW, Washington, D.C. 20520 (202-647-6575).

	Missiles	Launchers	Support Structures and Equipment	
(a) UNITED STATES OF AMERICA				
(i) Pershing II				
Deployment Area One				
The Federal Republic of Germany				
Boundaries:				
The territory of The Federal Republic of Germany bounded on the north by 51 degrees 00 minutes 00 seconds north latitude; on the east by 012 degrees 00 minutes 00 seconds east longitude; on the south by 48 degrees 00 minutes 00 seconds north latitude; and within the national boundaries of The Federal Republic of Germany.				
Missile Operating Bases				
Schwaebisch-Gmuend	40	36	Launch Pad Shelter	0
48 48 54 N 009 48 29 E	(includes 4 spares)		Training Missile Stage	24
Neu Ulm	40	43	Launch Pad Shelter	0
48 22 40 N 010 00 45 E	(includes 4 spares)	(includes 7 spares)	Training Missile Stage	24
Waldheide-Neckarsulm	40	36	Launch Pad Shelter	0
49 07 45 N 009 16 31 E	(includes 4 spares)		Training Missile Stage	24
(ii) BGM-109G				
Deployment Area One				
The United Kingdom of Great Britain and Northern Ireland				
Boundaries:				
The territory of The United Kingdom bounded on the north by 52 degrees 40 minutes 00 seconds north latitude; on the west by 003 degrees 30 minutes 00 seconds west longitude; on the south by the English Channel; and on the east by the English Channel and the North Sea.				
Missile Operating Base				
Greenham Common	101	29	Training Missile	0
51 22 35 N 001 18 12 W	with launch canister (includes 5 spares)	(includes 5 spares)	Training Launch Canister	7
Deployment Area Two				
The United Kingdom of Great Britain and Northern Ireland				
Boundaries:				
The territory of 'The United Kingdom bounded on the north by 53 degrees 45 minutes 00 seconds north latitude; on the west by 002 degrees 45 minutes 00 seconds west longitude; on the south by 51 degrees 05 minutes 00 seconds north latitude; and on the east by the English Channel and the North Sea.				

	Missiles	Launchers	Support Structures and Equipment	
Missile Operating Base				
Molesworth 52 23 00 N 000 25 35 W	18* with launch canister	6*	Training Missile Training Launch Canister	0 7
Deployment Area				
The Republic of Italy				
Boundaries:				
The territory of The Republic of Italy within the boundaries of the Island of Sicily.				
Missile Operating Base				
Comiso 36 59 44 N 014 36 34 E	108 with launch canister (includes 12 spares)	31 (includes 7 spares)	Training Missile Training Launch Canister	0 7
Deployment Area				
The Kingdom of Belgium				
Boundaries:				
The territory of The Kingdom of Belgium.				
Missile Operating Base				
Florennes 50 13 35 N 004 39 00 E	20 with launch canister (includes 4 spares)	12 (includes 8 spares)	Training Missile Training Launch Canister	0 7
Deployment Area Two				
The Federal Republic of Germany				
Boundaries:				
The territory of The Federal Republic of Germany bounded on the north by 51 degrees 25 minutes 00 seconds north latitude; on the east by 009 degrees 30 minutes 00 seconds east longitude; on the south by 48 degrees 43 minutes 00 seconds north latitude; and on the west by the national boundaries of The Federal Republic of Germany.				
Missile Operating Base				
Wueschheim 50 02 33 N 007 25 06 E	62 with launch canister (includes 14 spares)	31 (includes 9 spares)	Training Missile Training Launch Canister	1 10
Deployment Area				
The Kingdom of the Netherlands				
Boundaries:				
The territory of The Kingdom of the Netherlands bounded on the north by 52 degrees 30 minutes 00 seconds north latitude and within the national boundaries of The Kingdom of the Netherlands.				
Missile Operating Base				
Woensdrecht 51 26 12 N 004 21 15 E	0 with launch canister	0	Training Missile Training Launch Canister	0 0

*In preparation for operational status.

	Missiles	Launchers	Support Structures and Equipment	

(b) UNION OF SOVIET SOCIALIST REPUBLICS

(i) SS-20

Deployment Area
Postavy
55 12 13 N 027 00 00 E
54 52 47 026 41 18
54 43 58 026 04 07
55 01 13 026 03 43

Missile Operating Base
Postavy
55 09 47 N 026 54 21 E

9	9	Launch Canister	9
		Missile Transporter Vehicle	0
		Fixed Structure for Launcher	9
		Training Missile	0

Deployment Area
Vetrino
55 28 44 N 028 42 29 E
55 01 03 028 15 03
55 01 16 027 48 46
55 16 22 027 49 05

Missile Operating Base
Vetrino
55 24 19 N 028 33 29 E

9	9	Launch Canister	9
		Missile Transporter Vehicle	0
		Fixed Structure for Launcher	9
		Training Missile	0

Deployment Area
Polotsk
55 37 36 N 028 23 49 E
55 28 07 029 20 25
54 32 15 029 09 47
54 39 32 028 10 40

Missile Operating Base
Polotsk
55 22 34 N 028 44 17 E

9	9	Launch Canister	9
		Missile Transporter Vehicle	0
		Fixed Structure for Launcher	9
		Training Missile	0

Deployment Area
Smorgon'
54 37 43 N 026 52 34 E
54 22 37 026 52 37
54 37 18 025 41 58
54 45 21 026 15 13

Missile Operating Base
Smorgon'
54 36 16 N 026 23 05 E

9	9	Launch Canister	9
		Missile Transporter Vehicle	0
		Fixed Structure for Launcher	9
		Training Missile	0

Deployment Area
Smorgon'
54 29 01 N 026 26 40 E
54 05 04 025 53 59
54 24 14 025 31 18
54 35 27 026 19 10

Missile Operating Base
Smorgon'
54 31 36 N 026 17 20 E

9	9	Launch Canister	9
		Missile Transporter Vehicle	0
		Fixed Structure for Launcher	9
		Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Lida				
53 45 24 N 025 29 02 E				
53 34 00 024 49 35				
53 42 25 024 38 15				
53 58 05 025 10 17				
Missile Operating Base				
Lida	9	9	Launch Canister	9
53 47 39 N 025 20 27 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Gezgaly				
53 38 53 N 025 25 38 E				
53 23 48 025 26 12				
53 12 46 025 08 38				
53 22 57 024 35 43				
Missile Operating Base				
Gezgaly	6	6	Launch Canister	6
53 32 50 N 025 16 48 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Slonim				
52 58 15 N 025 55 42 E				
52 45 02 025 31 08				
53 04 08 025 09 00				
53 08 45 025 30 20				
Missile Operating Base				
Slonim	9	9	Launch Canister	9
52 55 54 N 025 21 59 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Ruzhany				
52 55 21 N 024 58 40 E				
52 46 32 024 48 25				
52 45 52 024 16 26				
53 07 34 024 22 14				
Missile Operating Base				
Ruzhany	6	6	Launch Canister	6
52 49 29 N 024 45 45 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Zasimovichi				
52 37 55 N 024 48 50 E				
52 22 00 024 10 52				
52 32 36 023 56 54				
52 45 52 024 16 26				
Missile Operating Base				
Zasimovichi	6	6	Launch Canister	6
52 30 38 N 024 08 43 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Mozyr'				
52 05 31 N 029 13 04 E				
51 39 05 029 39 31				
51 42 00 029 01 30				
51 52 57 028 51 32				
Missile Operating Base				
Mozyr'	9	9	Launch Canister	9
52 02 27 N 029 11 15 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Petrikov				
52 16 29 N 029 03 04 E				
52 08 06 028 48 40				
52 08 33 028 13 37				
52 27 47 028 28 17				
Missile Operating Base				
Petrikov	6	6	Launch Canister	6
52 10 29 N 028 34 52 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Zhitkovichi				
52 23 40 N 028 10 31 E				
52 08 35 028 10 07				
52 08 55 027 14 01				
52 24 01 027 14 06				
Missile Operating Base				
Zhitkovichi	6	6	Launch Canister	6
52 11 36 N 027 48 07 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Rechitsa				
52 26 34 N 030 21 10 E				
52 05 27 030 43 26				
51 47 47 030 23 27				
52 13 08 030 00 53				
Missile Operating Base				
Rechitsa	6	6	Launch Canister	6
52 11 58 N 030 07 11 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Slutsk				
53 28 29 N 027 57 50 E				
53 02 31 028 07 59				
53 13 35 027 25 09				
53 28 40 027 28 55				
Missile Operating Base				
Slutsk	9	9	Launch Canister	9
53 14 20 N 027 42 15 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Lutsk				
51 08 14 N 025 54 51 E				
50 50 45 025 34 49				
51 16 24 025 16 49				
51 20 51 025 26 59				
Missile Operating Base				
Lutsk	9	9	Launch Canister	9
50 56 07 N 025 36 26 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Lutsk				
51 10 05 N 025 27 21 E				
50 43 54 025 07 49				
50 47 35 024 33 38				
51 11 22 024 35 49				
Missile Operating Base				
Lutsk	9	9	Launch Canister	9
50 50 06 N 025 04 02 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Brody				
50 14 00 N 025 29 11 E				
50 00 46 025 09 30				
50 17 32 024 41 55				
50 22 10 024 58 33				
Missile Operating Base				
Brody	9	9	Launch Canister	9
50 06 09 N 025 12 14 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Chervonograd				
50 41 07 N 024 33 58 E				
50 13 10 024 38 45				
50 19 02 024 11 30				
50 36 26 024 17 15				
Missile Operating Base				
Chervonograd	9	9	Launch Canister	9
50 22 45 N 024 18 16 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Slavuta				
50 18 55 N 027 03 22 E				
50 08 07 027 03 21				
50 07 59 026 16 22				
50 29 38 026 29 34				
Missile Operating Base				
Slavuta	9	9	Launch Canister	9
50 17 05 N 026 41 31 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Belokorovichi				
51 10 19 N 028 12 04 E				
50 51 05 027 51 07				
51 21 28 027 01 43				
51 21 22 027 37 54				
Missile Operating Base				
Belokorovichi	9	9	Launch Canister	9
51 10 45 N 028 03 20 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Lipniki				
51 11 38 N 029 10 28 E				
50 52 28 028 55 56				
51 05 53 028 22 14				
51 20 57 028 26 07				
Missile Operating Base				
Lipniki	9	9	Launch Canister	9
51 12 22 N 028 26 37 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Vysokaya Pech'				
50 29 13 N 028 21 10 E				
50 09 49 028 20 37				
50 10 10 027 40 19				
50 29 33 027 43 58				
Missile Operating Base				
Vysokaya Pech'	6	6	Launch Canister	6
50 10 11 N 028 16 22 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Vysokaya Pech'				
50 13 33 N 029 01 05 E				
49 56 07 029 10 23				
49 52 42 028 06 47				
50 07 39 028 20 33				
Missile Operating Base				
Vysokaya Pech'	6	6	Launch Canister	6
50 05 43 N 028 22 09 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0
Deployment Area				
Korosten'				
50 54 31 N 029 02 51 E				
50 41 34 029 02 16				
50 42 05 028 28 20				
50 55 01 028 28 44				
Missile Operating Base				
Korosten'	6	6	Launch Canister	6
50 52 22 N 028 31 17 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	6
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Lebedin				
50 35 26 N 034 41 41 E				
50 12 10 034 00 31				
50 14 25 033 50 28				
50 35 42 034 21 21				
Missile Operating Base				
Lebedin	9	9	Launch Canister	9
50 33 06 N 034 26 02 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Glukhov				
52 02 16 N 033 52 28 E				
51 36 21 033 55 26				
51 34 22 033 27 42				
52 02 21 033 38 28				
Missile Operating Base				
Glukhov	9	9	Launch Canister	9
51 41 00 N 033 30 56 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Glukhov				
51 42 59 N 033 27 47 E				
51 23 31 033 37 56				
51 23 37 032 56 33				
51 43 02 033 10 25				
Missile Operating Base				
Glukhov	9	9	Launch Canister	9
51 36 44 N 033 29 17 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Akhtyrka				
50 17 58 N 034 54 32 E				
49 49 59 034 50 05				
50 10 03 033 57 06				
50 18 24 034 24 13				
Missile Operating Base				
Akhtyrka	9	9	Launch Canister	9
50 16 01 N 034 49 53 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Akhtyrka				
50 10 43 N 035 34 34 E				
49 54 08 035 00 16				
50 18 24 034 24 13				
50 26 42 034 48 07				
Missile Operating Base				
Akhtyrka	9	9	Launch Canister	9
50 21 59 N 034 57 03 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Novosibirsk				
55 51 09 N 083 52 28 E				
55 14 33 083 49 49				
55 21 52 083 08 41				
55 30 29 083 09 09				
Missile Operating Base				
Novosibirsk	9	9	Launch Canister	9
55 22 05 N 083 13 52 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Novosibirsk				
55 06 17 N 083 34 11 E				
54 57 40 083 33 38				
55 04 53 082 52 45				
55 24 16 082 53 40				
Missile Operating Base				
Novosibirsk	9	9	Launch Canister	9
55 22 57 N 082 55 16 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Novosibirsk				
55 31 47 N 084 08 57 E				
55 13 26 082 56 55				
55 20 01 082 49 41				
55 40 13 084 00 42				
Missile Operating Base				
Novosibirsk	9	9	Launch Canister	9
55 19 32 N 082 56 18 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Novosibirsk				
55 08 01 N 083 53 07 E				
54 52 56 083 52 02				
55 11 17 082 56 49				
55 22 00 083 01 07				
Missile Operating Base				
Novosibirsk	9	9	Launch Canister	9
55 18 44 N 083 01 38 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Novosibirsk				
55 03 58 N 084 18 27 E				
54 53 12 084 19 10				
55 04 49 082 56 30				
55 22 00 083 01 07				
Missile Operating Base				
Novosibirsk	9	9	Launch Canister	9
55 19 07 N 083 09 59 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Drovyanaya				
51 44 02 N 113 08 33 E				
51 22 28 113 07 32				
51 22 49 112 46 52				
51 44 16 112 54 39				
Missile Operating Base				
Drovyanaya	9	9	Launch Canister	9
51 27 20 N 113 03 42 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Drovyanaya				
51 37 34 N 113 08 14 E				
51 22 28 113 07 32				
51 18 39 112 36 23				
51 27 14 112 40 08				
Missile Operating Base				
Drovyanaya	9	9	Launch Canister	9
51 26 10 N 113 02 43 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Drovyanaya				
51 24 52 N 112 53 51 E				
51 20 36 112 50 13				
51 18 54 112 15 44				
51 23 13 112 15 51				
Missile Operating Base				
Drovyanaya	9	9	Launch Canister	9
51 22 59 N 112 49 55 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Drovyanaya				
51 26 54 N 113 00 50 E				
51 18 13 113 03 54				
51 18 47 112 26 03				
51 29 39 112 19 29				
Missile Operating Base				
Drovyanaya	9	9	Launch Canister	9
51 20 18 N 113 00 54 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Drovyanaya				
51 33 19 N 113 04 35 E				
51 22 32 113 04 05				
51 22 49 112 46 52				
51 33 36 112 47 17				
Missile Operating Base				
Drovyanaya	9	9	Launch Canister	9
51 23 49 N 112 52 13 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Barnaul				
53 54 32 N 084 01 02 E				
53 43 46 084 01 48				
53 35 30 083 43 07				
53 44 16 083 36 24				
Missile Operating Base				
Barnaul	9	9	Launch Canister	9
53 46 08 N 083 57 11 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Barnaul				
53 29 21 N 084 31 45 E				
52 58 43 083 47 57				
53 13 47 083 48 56				
53 29 02 084 17 18				
Missile Operating Base				
Barnaul	9	9	Launch Canister	9
53 18 21 N 084 08 47 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Barnaul				
53 16 38 N 084 43 16 E				
52 59 32 084 51 20				
52 55 09 084 47 58				
53 16 02 084 14 31				
Missile Operating Base				
Barnaul	9	9	Launch Canister	9
53 13 29 N 084 40 10 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Barnaul				
53 27 33 N 084 49 55 E				
53 16 42 084 46 52				
53 16 02 084 14 31				
53 26 58 084 21 02				
Missile Operating Base				
Barnaul	9	9	Launch Canister	9
53 18 47 N 084 30 27 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Kansk				
56 32 14 N 096 12 14 E				
56 15 16 095 34 54				
56 28 30 095 20 13				
56 34 39 095 36 13				
Missile Operating Base				
Kansk	9	9	Launch Canister	9
56 22 31 N 095 28 35 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Kansk				
56 30 47 N 095 12 33 E				
56 19 53 095 19 41				
56 13 45 094 59 58				
56 31 03 094 56 58				
Missile Operating Base				
Kansk	9	9	Launch Canister	9
56 20 09 N 095 16 34 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Kansk				
56 19 29 N 096 20 56 E				
56 08 43 096 21 41				
56 08 17 096 02 24				
56 19 14 095 50 42				
Missile Operating Base				
Kansk	9	9	Launch Canister	9
56 11 19 N 096 03 13 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
Deployment Area				
Kansk				
56 14 50 N 096 05 46 E				
55 59 57 096 14 35				
55 59 41 096 03 03				
56 15 00 095 46 30				
Missile Operating Base				
Kansk	9	9	Launch Canister	9
56 02 19 N 096 04 58 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	9
			Training Missile	0
(ii) SS-4				
Deployment Area				
Sovetsk				
55 05 33 N 021 52 38 E				
55 03 22 021 56 20				
54 57 04 021 29 58				
55 01 23 021 26 16				
Missile Operating Base				
Sovetsk	5	6	Missile Transporter Vehicle	11
54 59 07 N 021 36 36 E		(Launch	Missile Erector	7
		Stand)	Propellant Tank	52
			Training Missile	6
Deployment Area				
Gusev				
54 46 02 N 022 07 07 E				
54 24 14 022 28 42				
54 20 01 022 21 10				
54 43 58 021 55 53				
Missile Operating Base				
Gusev	5	7	Missile Transporter Vehicle	12
54 43 59 N 022 03 27 E		(Launch	Missile Erector	7
		Stand)	Propellant Tank	52
			Training Missile	7

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Malorita				
51 53 50 N 024 05 39 E				
51 43 09 024 09 49				
51 42 59 023 57 07				
51 53 45 023 57 50				
Missile Operating Base				
Malorita	5	6 (Launch Stand)	Missile Transporter Vehicle	14
51 51 47 N 024 01 55 E			Missile Erector	7
			Propellant Tank	48
			Training Missile	5
Deployment Area				
Pinsk				
52 15 03 N 025 49 43 E				
52 04 09 025 39 30				
52 03 56 025 22 00				
52 14 54 025 35 40				
Missile Operating Base				
Pinsk	5	5 (Launch Stand)	Missile Transporter Vehicle	13
52 10 56 N 025 41 27 E			Missile Erector	6
			Propellant Tank	47
			Training Missile	6
Deployment Area				
Vyru				
57 49 33 N 027 00 00 E				
57 43 05 027 00 00				
57 43 04 026 43 54				
57 49 32 026 43 51				
Missile Operating Base				
Vyru	5	6 (Launch Stand)	Missile Transporter Vehicle	11
57 45 47 N 026 47 13 E			Missile Erector	5
			Propellant Tank	51
			Training Missile	6
Deployment Area				
Aluksne				
57 25 51 N 026 56 00 E				
57 21 32 026 56 01				
57 17 12 026 40 06				
57 25 49 026 40 01				
Missile Operating Base				
Aluksne	5	6 (Launch Stand)	Missile Transporter Vehicle	12
57 25 04 N 026 49 46 E			Missile Erector	6
			Propellant Tank	45
			Training Missile	6
Deployment Area				
Ostrov				
57 38 21 N 028 20 22 E				
57 21 04 028 23 43				
57 21 14 028 07 47				
57 38 28 028 08 19				
Missile Operating Base				
Ostrov	5	8 (Launch Stand)	Missile Transporter Vehicle	12
57 31 53 N 028 12 19 E			Missile Erector	7
			Propellant Tank	48
			Training Missile	6

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Karmelava				
55 06 12 N 024 22 04 E				
54 57 49 024 33 51				
54 55 00 024 04 05				
55 01 28 024 03 36				
Missile Operating Base				
Karmelava	5	5	Missile Transporter Vehicle	13
55 00 51 N 024 14 16 E		(Launch	Missile Erector	6
		Stand)	Propellant Tank	47
			Training Missile	6
Deployment Area				
Ukmerge				
55 17 41 N 024 59 06 E				
55 04 25 024 40 58				
55 08 35 024 33 12				
55 19 43 024 51 26				
Missile Operating Base				
Ukmerge	5	6	Missile Transporter Vehicle	14
55 07 51 N 024 38 36 E		(Launch	Missile Erector	7
		Stand)	Propellant Tank	50
			Training Missile	6
Deployment Area				
Taurage				
55 18 07 N 022 30 42 E				
55 09 30 022 30 22				
55 03 10 022 18 52				
55 13 35 022 21 01				
Missile Operating Base				
Taurage	5	6	Missile Transporter Vehicle	12
55 04 58 N 022 19 38 E		(Launch	Missile Erector	6
		Stand)	Propellant Tank	47
			Training Missile	6
Deployment Area				
Kolomyya				
48 45 01 N 024 55 59 E				
48 36 23 024 56 20				
48 36 04 024 40 04				
48 44 42 024 39 40				
Missile Operating Base				
Kolomyya	5	6	Missile Transporter Vehicle	12
48 39 32 N 024 48 04 E		(Launch	Missile Erector	6
		Stand)	Propellant Tank	46
			Training Missile	7
Deployment Area				
Stryy				
49 19 59 N 023 58 46 E				
49 11 22 023 58 29				
49 21 09 023 31 57				
49 29 46 023 32 24				
Missile Operating Base				
Stryy	5	7	Missile Transporter Vehicle	12
49 25 23 N 023 34 56 E		(Launch	Missile Erector	7
		Stand)	Propellant Tank	49
			Training Missile	7

	Missiles	Launchers	Support Structures and Equipment	
Deployment Area				
Skala-Podol'skaya				
48 54 37 N 026 17 26 E				
48 48 09 026 17 32				
48 48 02 026 01 12				
48 54 30 026 01 04				
Missile Operating Base				
Skala-Podol'skaya	5	6 (Launch Stand)	Missile Transporter Vehicle	12
48 51 02 N 026 08 36 E			Missile Erector	6
			Propellant Tank	46
			Training Missile	5

2. Non-Deployed

The following are missile support facilities, their locations and the numbers, for each Party of all non-deployed intermediate-range missiles listed as existing types in Article III of the Treaty, launchers of such missiles and support structures and support equipment associated with such missiles and launchers. Site diagrams for agreed missile support facilities, to include boundaries and center coordinates, are appended to this Memorandum of Understanding.

	Missiles	Launchers	Support Structures and Equipment	
(a) UNITED STATES OF AMERICA				
(i) Pershing II				
Missile Production Facilities:				
Hercules Plant #1	0	0	Launch Pad Shelter	0
Magna, Utah			Training Missile Stage	0
40 39 40 N 112 03 14 W				
Launcher Production Facilities:				
Martin Marietta	0	0	Launch Pad Shelter	0
Middle River, Maryland			Training Missile Stage	0
39 35 N 076 24 W				
Missile Storage Facilities:				
Pueblo Depot Activity	111	0	Launch Pad Shelter	0
Pueblo, Colorado			Training Missile Stage	4
38 19 N 104 20 W				
Redstone Arsenal	1	0	Launch Pad Shelter	0
Huntsville, Alabama			Training Missile Stage	20
34 36 N 086 38 W				
Weilerbach	12	0	Launch Pad Shelter	0
Federal Republic of Germany			Training Missile Stage	0
49 27 N 007 38 E				
Launcher Storage Facilities:				
Redstone Arsenal	0	1	Launch Pad Shelter	0
Huntsville, Alabama			Training Missile Stage	0
34 35 N 086 37 W				

	Missiles	Launchers	Support Structures and Equipment	
Missile/Launcher Storage Facilities:				
NONE				
Missile Repair Facilities:				
Pueblo Depot Activity Pueblo, Colorado 38 18 N 104 19 W	0	0	Launch Pad Shelter Training Missile Stage	0 0
Launcher Repair Facilities:				
EMC Hausen, Frankfurt Federal Republic of Germany 50 08 N 008 38 E	0	0	Launch Pad Shelter Training Missile Stage	0 0
Redstone Arsenal Huntsville, Alabama 34 37 N 086 38 W	0	10	Launch Pad Shelter Training Missile Stage	0 0
Ft. Sill Ft. Sill, Oklahoma 34 40 N 098 24 W	0	2	Launch Pad Shelter Training Missile Stage	0 0
Pueblo Depot Activity Pueblo, Colorado 38 19 N 104 20 W	0	0	Launch Pad Shelter Training Missile Stage	0 0
Missile/Launcher Repair Facilities:				
NONE				
Test Ranges:				
Complex 16 Cape Canaveral, Florida 28 29 N 080 34 W	3	0	Launch Pad Shelter Training Missile Stage	0 0
Training Facilities:				
Ft. Sill Ft. Sill, Oklahoma 34 41 N 098 34 W	0	39	Launch Pad Shelter Training Missile Stage	0 78
Elimination Facilities:				
(Not determined)				
Missiles, Launchers, and Support Equipment in Transit:	0	0	Training Missile Stage	4
(ii) BGM-109G				
Missile Production Facilities:				
McDonnell-Douglas Titusville, Florida 28 32 N 080 40 W	52 with launch canister	0	Training Missile Training Launch Canister	0 0
General Dynamics Kearney Mesa, California 32 50 N 117 08 W	48 with launch canister	0	Training Missile Training Launch Canister	0 0
Launcher Production Facilities:				
Air Force Plant 19 San Diego, California 32 45 N 117 12 W	2 with launch canister	4	Training Missile Training Launch Canister	0 0
Missile Storage Facilities:				
NONE				

	Missiles	Launchers	Support Structures and Equipment	
Launcher Storage Facilities:				
NONE				
Missile/Launcher Storage Facilities:				
NONE				
Missile Repair Facilities:				
SABCA	16	0	Training Missile	0
Gosselies, Belgium	with launch		Training Launch Canister	0
50 27 N 004 27 E	canister			
Launcher Repair Facilities:				
NONE				
Missile/Launcher Repair Facilities:				
NONE				
Test Ranges:				
Dugway Proving Grounds	0	0	Training Missile	0
Utah	with launch		Training Launch Canister	0
40 22 N 113 04 W	canister			
Training Facilities:				
Davis-Monthan AFB	0	7	Training Missile	2
Tucson, Arizona	with launch		Training Launch Canister	27
32 11 N 110 53 W	canister			
Ft. Huachuca	0	6	Training Missile	0
Ft. Huachuca, Arizona	with launch		Training Launch Canister	8
31 29 N 110 19 W	canister			
Elimination Facilities:				
(Not determined)				
Missiles, Launchers, and Support Equipment in Transit	15	0	Training Missile	0
	with launch		Training Launch Canister	2
	canister			

(b) UNION OF SOVIET SOCIALIST REPUBLICS

(i) SS-20

Missile Production Facilities:				
Votkinsk Machine Building Plant	36*	0	Launch Canister	36
Udmurt ASSR, RSFSR			Missile Transporter Vehicle	0
57 01 30 N 054 08 00 E			Fixed Structure for Launcher	0
			Training Missile	0
Launcher Production Facilities:				
Barrikady Plant	0	1	Launch Canister	0
Volgograd			Missile Transporter Vehicle	0
48 44 N 044 32 E			Fixed Structure for Launcher	0
			Training Missile	0

*In various stages of manufacture.

	Missiles	Launchers	Support Structures and Equipment	
Missile Storage Facilities:				
NONE				
Launcher Storage Facilities:				
NONE				
Missile/Launcher Storage Facilities:				
Postavy 55 10 N 026 55 E	2	3	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	3 10 0 1
Gezgaly 53 36 N 025 28 E	2	2	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	6 10 0 4
Mozyr' 52 03 N 029 11 E	2	2	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	4 10 0 2
Lutsk 50 53 N 025 30 E	1	1	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	3 10 0 2
Belokorovichi 51 09 N 028 00 E	2	2	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	3 10 0 1
Lebedin 50 36 N 034 25 E	2	1	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	5 10 0 3
Novosibirsk 55 16 N 083 02 E	1	1	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	3 10 0 2
Drovyanaya 51 30 N 113 03 E	2	2	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	4 10 0 2
Kansk 56 16 N 095 39 E	1	1	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	2 1 0 1
Barnaul 53 34 N 083 48 E	1	1	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	1 3 0 0
Kolosovo 53 31 N 026 55 E	144	0	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	144 0 0 0
Zherebkovo 47 51 N 029 54 E	20	0	Launch Canister Missile Transporter Vehicle Fixed Structure for Launcher Training Missile	21 2 0 1

	Missiles	Launchers	Support Structures and Equipment	
Missile Repair Facilities:				
NONE				
Launcher Repair Facilities:				
NONE				
Missile/Launcher Repair Facilities:				
Bataysk	0	11	Launch Canister	2
47 08 N 039 47 E			Missile Transporter Vehicle	4
			Fixed Structure for Launcher	0
			Training Missile	2
Test Ranges:				
Kapustin Yar	0	8	Launch Canister	0
48 37 N 046 18 E			Missile Transporter Vehicle	3
			Fixed Structure for Launcher	1
			Training Missile	0
Training Facilities:				
Serpukhov	0	6	Launch Canister	4
54 54 N 037 28 E			Missile Transporter Vehicle	1
			Fixed Structure for Launcher	0
			Training Missile	4
Krasnodar	0	1	Launch Canister	2
45 03 N 038 58 E			Missile Transporter Vehicle	1
			Fixed Structure for Launcher	0
			Training Missile	2
Training Center at Test Range Kapustin Yar	0	7	Launch Canister	12
48 38 N 046 10 E			Missile Transporter Vehicle	1
			Fixed Structure for Launcher	3
			Training Missile	12
Elimination Facilities:				
Sarny	29	68	Launch Canister	32
51 21 N 026 35 E			Missile Transporter Vehicle	35
			Fixed Structure for Launcher	0
			Training Missile	3
Aral'sk	0	0	Launch Canister	0
46 50 N 61 18 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	0
			Training Missile	0
Chita	0	0	Launch Canister	0
52 22 N 113 17 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	0
			Training Missile	0
Kansk	0	0	Launch Canister	0
56 20 N 095 06 E			Missile Transporter Vehicle	0
			Fixed Structure for Launcher	0
			Training Missile	0

Missiles, Launchers, and Support Equipment in Transit:
NONE

(ii) SS-4

Missile Production Facilities:
NONE

Launcher Production Facilities:
NONE

	Missiles	Launchers	Support Structures and Equipment	
Missile Storage Facilities:				
NONE				
Launcher Storage Facilities:				
NONE				
Missile/Launcher Storage Facilities:				
Kolosovo	35	1	Missile Transporter Vehicle	9
53 31 N 026 55 E		(Launch	Missile Erector	10
		Stand)	Propellant Tank	59
			Training Missile	31
Zherebkovo	56	3	Missile Transporter Vehicle	5
47 51 N 029 54 E		(Launch	Missile Erector	4
		Stand)	Propellant Tank	11
			Training Missile	30
Missile Repair Facilities:				
Bataysk	0	0	Missile Transporter Vehicle	0
47 08 N 039 47 E		(Launch	Missile Erector	0
		Stand)	Propellant Tank	0
			Training Missile	6
Launcher Repair Facilities:				
NONE				
Missile/Launcher Repair Facilities:				
NONE				
Test Ranges:				
Kapustin Yar	14	2	Missile Transporter Vehicle	4
48 35 N 046 18 E		(Launch	Missile Erector	2
		Stand)	Propellant Tank	4
			Training Missile	1
Training Facilities:				
NONE				
Elimination Facilities:				
Lesnaya	0	0	Missile Transporter Vehicle	0
52 59 N 025 46 E		(Launch	Missile Erector	0
		Stand)	Propellant Tank	0
			Training Missile	0
Missiles, Launchers, and Support Equipment in Transit:				
NONE				

(iii) SS-5

Missile Production Facilities:				
NONE				
Launcher Production Facilities:				
NONE				
Missile Storage Facilities:				
Kolosovo	6	0		
53 31 N 026 55 E				
Launcher Storage Facilities:				
NONE				
Missile/Launcher Storage Facilities:				
NONE				

	Missiles	Launchers	Support Structures and Equipment
Missile Repair Facilities:			
NONE			
Launcher Repair Facilities:			
NONE			
Missile/Launcher Repair Facilities:			
NONE			
Test Ranges:			
NONE			
Training Facilities:			
NONE			
Elimination Facilities:			
Lesnaya	0	0	
52 59 N 025 46 E			
Missiles, Launchers, and Support Equipment in Transit:			
NONE			

3. Training Launchers

In addition to the support equipment listed in paragraphs 1 and 2 of this Section, the Parties possess vehicles, used to train drivers of launchers of intermediate-range missiles, which shall be considered for purposes of this Treaty to be training launchers. The number of such vehicles for each Party is:

(a) for the United States of America—29; and
(b) for the Union of Soviet Socialist Republics—65.

Elimination of such vehicles shall be carried out in accordance with procedures set forth in the Protocol on Elimination.

IV. Shorter-Range Missiles, Launchers of Such Missiles and Support Equipment Associated With Such Missiles and Launchers

1. Deployed

The following are the missile operating bases, their locations and the numbers, for each Party, of all deployed shorter-range missiles listed as existing types in Article III of the Treaty, and launchers of such missiles, and the support equipment associated with such missiles and launchers. Site diagrams, to include boundaries and center coordinates, of each listed missile operating base are appended to this Memorandum of Understanding.

	Missiles	Launchers	Support Equipment	
(a) UNITED STATES OF AMERICA				
(i) Pershing IA				
Missile Operating Base: NONE				
(b) UNION OF SOVIET SOCIALIST REPUBLICS				
(i) SS-12				
Missile Operating Bases:				
Koenigsbrueck German Democratic Republic 51 16 40 N 013 53 20 E	19	11	Missile Transporter Vehicle Training Missile	9 10
Bischofswerda German Democratic Republic 51 08 33 N 014 12 18 E	8	5	Missile Transporter Vehicle Training Missile	0 4
Waren German Democratic Republic 53 32 40 N 012 37 30 E	22	12	Missile Transporter Vehicle Training Missile	9 7
Wokuhl German Democratic Republic 53 16 20 N 013 15 50 E	5	6	Missile Transporter Vehicle Training Missile	0 7
Hranice Czechoslovak Socialist Republic 49 33 00 N 017 45 00 E	39	24	Missile Transporter Vehicle Training Missile	15 13
Pashino 55 16 37 N 082 59 42 E	0	4	Missile Transporter Vehicle Training Missile	1 5
Gornyy 51 33 10 N 113 01 30 E	36	14	Missile Transporter Vehicle Training Missile	4 10
Lapichi 53 25 30 N 028 30 00 E	9	5	Missile Transporter Vehicle Training Missile	1 10
Kattakurgan 39 38 18 N 065 58 40 E	9	5	Missile Transporter Vehicle Training Missile	1 6
Saryozek 44 31 58 N 077 46 20 E	36	15	Missile Transporter Vehicle Training Missile	3 16
Novosysoyevka 44 11 58 N 133 26 05 E	37	14	Missile Transporter Vehicle Training Missile	5 17

	Missiles	Launchers	Support Equipment	
(ii) SS-23				
Missile Operating Bases:				
Weissenfels German Democratic Republic 51 11 50 N 011 59 50 E	6	4	Missile Transporter Vehicle Training Missile	3 18
Jena-Forst German Democratic Republic 50 54 55 N 011 32 40 E	47	12	Missile Transporter Vehicle Training Missile	8 3
Stan'kovo 53 38 30 N 027 13 20 E	40	18	Missile Transporter Vehicle Training Missile	18 10
Tsel' 53 23 38 N 028 28 06 E	26	12	Missile Transporter Vehicle Training Missile	11 9
Slobudka 52 30 30 N 024 31 30 E	26	12	Missile Transporter Vehicle Training Missile	12 10
Bayram-Ali 37 36 18 N 062 10 40 E	0	12	Missile Transporter Vehicle Training Missile	12 0
Semipalatinsk 50 23 00 N 080 09 30 E	22	12	Missile Transporter Vehicle Training Missile	12 4

2. Non-Deployed

The following are missile support facilities, their locations and the numbers, for each Party of all non-deployed shorter-range missiles listed as existing types in Article III of the Treaty, and launchers of such missiles and support equipment associated with such missiles and launchers. Site diagrams for agreed missile support facilities, to include boundaries and center coordinates, are appended to this Memorandum of Understanding.

	Missiles	Launchers	Support Equipment	
(a) UNITED STATES OF AMERICA				
(i) Pershing IA				
Missile Production Facilities:				
Longhorn Army Ammunition Plant Marshall, Texas 32 39 N 094 08 W	0	0	Training Missile Stage	0
Launcher Production Facilities:				
Martin Marietta Middle River, Maryland 39 35 N 076 24 W	0	0	Training Missile Stage	0
Missile Storage Facilities:				
Pueblo Depot Activity Pueblo, Colorado 38 19 N 104 20 W	169	0	Training Missile Stage	53
Launcher Storage Facilities: NONE				
Missile/Launcher Storage Facilities: NONE				
Missile Repair Facilities: NONE				

	Missiles	Launchers	Support Equipment	
Launcher Repair Facilities:				
Pueblo Depot Activity Pueblo, Colorado 38 19 N 104 20 W	0	1	Training Missile Stage	0
Missile/Launcher Repair Facilities:				
NONE				
Test Ranges:				
NONE				
Training Facilities:				
NONE				
Elimination Facilities:				
(Not determined)				
Missiles, Launchers, and Support Equipment in Transit:	1	0	Training Missile Stage	0

(b) UNION OF SOVIET SOCIALIST REPUBLICS

(i) SS-12

Missile Production Facilities:				
Votkinsk Machine Building Plant Udmurt ASSR, RSFSR 57 01 30 N 054 08 00 E	0	0	Missile Transporter Vehicle Training Missile	0 0
Launcher Production Facilities:				
Barrikady Plant Volgograd 48 44 N 044 32 E	0	0	Missile Transporter Vehicle Training Missile	0 0
Missile Storage Facilities:				
Lozovaya 48 55 N 036 22 E	126	0	Missile Transporter Vehicle Training Missile	0 12
Ladushkin 54 35 N 020 12 E	72	0	Missile Transporter Vehicle Training Missile	0 18
Bronnaya Gora 52 37 N 025 04 E	170	0	Missile Transporter Vehicle Training Missile	0 3
Balkhash 46 50 N 075 36 E	138	0	Missile Transporter Vehicle Training Missile	0 47
Launcher Storage Facilities:				
Berezovka 50 20 N 028 26 E	0	15	Missile Transporter Vehicle Training Missile	10 0
Missile/Launcher Storage Facilities:				
NONE				
Missile Repair Facilities:				
NONE				
Launcher Repair Facilities:				
NONE				
Missile/Launcher Repair Facilities:				
NONE				

	Missiles	Launchers	Support Equipment	
Test Ranges:				
NONE				
Training Facilities:				
Saratov	0	3	Missile Transporter Vehicle	2
51 34 N 046 01 E			Training Missile	0
Kazan'	0	2	Missile Transporter Vehicle	2
55 58 N 049 11 E			Training Missile	0
Kamenka	0	0	Missile Transporter Vehicle	0
53 11 N 044 04 E			Training Missile	0
Elimination Facilities:				
Saryozek (Missiles)	0	0	Missile Transporter Vehicle	0
44 32 N 077 46 E			Training Missile	0
Stan'kovo (Launchers and Missile Transporter Vehicles)	0	0	Missile Transporter Vehicle	0
53 38 N 027 13 E			Training Missile	0
Missiles, Launchers, and Support Equipment in Transit:				
NONE				
(ii) SS-23				
Missile Production Facilities:				
Votkinsk Machine Building Plant	0	0	Missile Transporter Vehicle	0
Udmurt ASSR, RSFSR			Training Missile	0
57 01 30 N 054 08 00 E				
Launcher Production Facilities:				
V.I. Lenin Petropavlovsk Heavy Machine Building Plant	0	0	Missile Transporter Vehicle	0
Petropavlovsk			Training Missile	0
54 51 N 069 09 E				
Missile Storage Facilities:				
Ladushkin	33	0	Missile Transporter Vehicle	0
54 35 N 020 12 E			Training Missile	42
Launcher Storage Facilities:				
Berezovka	0	13	Missile Transporter Vehicle	5
50 20 N 028 26 E			Training Missile	0
Missile/Launcher Storage Facilities:				
NONE				
Missile Repair Facilities:				
NONE				
Launcher Repair Facilities:				
NONE				
Missile/Launcher Repair Facilities:				
NONE				
Test Ranges:				
NONE				

	Missiles	Launchers	Support Equipment	
Training Facilities:				
Saratov 51 34 N 046 01 E	0	3	Missile Transporter Vehicle Training Missile	2 0
Kazan' 55 58 N 049 11 E	0	3	Missile Transporter Vehicle Training Missile	2 0
Kamenka 53 11 N 044 04 E	0	1	Missile Transporter Vehicle Training Missile	1 0
Elimination Facilities:				
Saryozek (Missiles) 44 32 N 077 46 E	0	0	Missile Transporter Vehicle Training Missile	0 0
Stan'kovo (Launchers and Missile Transporter Vehicles) 53 38 N 027 13 E	0	0	Missile Transporter Vehicle Training Missile	0 0
Missiles, Launchers, and Support Equipment in Transit: NONE				

V. Missile Systems Tested, But Not Deployed, Prior to Entry into Force of the Treaty

The following are the missile support facilities, their locations and the numbers, for each Party of all intermediate-range and shorter-range missiles, and launchers of such missiles, which were tested prior to entry into force of the Treaty, but were never deployed, and which are not existing types of intermediate-range or shorter-range missiles listed in Article III of the Treaty. Site diagrams for agreed missile support facilities, to include boundaries and center coordinates, are appended to this Memorandum of Understanding.

	Missiles	Launchers	Support Equipment

(a) UNITED STATES OF AMERICA

(i) Pershing IB

Missile Production Facilities:
NONE

Launcher Production Facilities:
NONE

Missile Storage Facilities:
NONE

Launcher Storage Facilities:
NONE

Missile/Launcher Storage Facilities:
NONE

Missile Repair Facilities:
NONE

Launcher Repair Facilities:
NONE

Missile/Launcher Repair Facilities:
NONE

	Missiles	Launchers	Support Equipment

Test Ranges:
NONE

Training Facilities:
NONE

Elimination Facilities:
NONE

Missiles, Launchers, and Support Equipment in Transit:
NONE

(b) UNION OF SOVIET SOCIALIST REPUBLICS

(i) SSC-X-4

Missile Production Facilities:
NONE

Launcher Production Facilities:

Experimental Plant of the Amalgamated Production Works "M. I. Kalinin Machine Building Plant" Sverdlovsk 56 47 24 N 060 47 03 E	0 with launch canister	0

Missile Storage Facilities:
NONE

Launcher Storage Facilities:
NONE

Missile/Launcher Storage Facilities:

Jelgava 56 40 N 024 06 E	84 with launch canister	6

Missile Repair Facilities:
NONE

Launcher Repair Facilities:
NONE

Missile/Launcher Repair Facilities:
NONE

Test Ranges:
NONE

Training Facilities:
NONE

Elimination Facilities:

Jelgava 56 40 N 024 06 E	0 with launch canister	0

Missiles, Launchers, and Support Equipment in Transit:
NONE

VI. Technical Data

Following are agreed categories of technical data for missiles and launchers subject to the Treaty, support structures and support equipment associated with such missiles and launchers and the relevant data for each of these categories. Photographs of missiles, launchers, support structures and support equipment listed below are appended to this Memorandum of Understanding.

	P-II	BGM-109G	SS-20	SS-4	SS-5	SSC-X-4
1. Intermediate-Range Missiles						
(a) ***Missile Characteristics:***						
(i) Maximum number of warheads per missile	1	1	3	1	1	1
(ii) Length of missile, with front section (meters)	10.61	6.40	16.49	22.77	24.30	8.09
(iii) Length of						
1st stage (meters)	3.68	—	8.58	18.60	21.62	—
2nd stage (meters)	2.47	—	4.60	—	—	—
(iv) Maximum diameter of	—	0.53	—	1.65	2.40	0.51
1st stage (meters)	1.02	—	1.79	—	—	—
2nd stage (meters)	1.02	—	1.47	—	—	—
(v) Weight of GLBM, in metric tons (without front section; for liquid-fueled missiles, empty weight)	6.78	—	—	3.35	4.99	—
1st stage	4.15	—	26.63	—	—	—
2nd stage	2.63	—	8.63	—	—	—
Missile in canister	—	—	42.70	—	—	—
(vi) Weight of assembled GLCM, in metric tons (with fuel)						
In canister	—	1.71	—	—	—	2.44
Without canister	—	1.47	—	—	—	1.70
(b) ***Launcher Characteristics:***						
(i) Dimensions (maximum length, width, height in meters)	9.60	10.64	16.81	3.02	—	12.80
	2.49	2.44	3.20	3.02	—	3.05
	2.86	2.64	2.94	3.27	—	3.80
(ii) Maximum number of missiles each launcher is capable of carrying or containing at one time	1	4	1	1	—	6
(iii) Weight (in metric tons)	12.04	14.30	40.25	6.90	—	29.10
(c) ***Characteristics of Support Structures Associated With Such Missiles and Launchers***						
Dimensions of support structures are as follows (maximum length, width, height in meters):						
(i) Fixed structure for a launcher	—	—	27.70	—	—	—
			9.07			
			6.82			
(ii) Launch pad shelter	74.00	—	—	—	—	—
	14.60					
	10.00					
(d) ***Characteristics of Support Equipment Associated With Such Missiles and Launchers***						
Dimensions of support equipment are as follows (maximum length, width, height in meters):						
(i) Launch canister	—	6.94	19.32	—	—	8.39
(Diameter)	—	0.53	2.14	—	—	0.65

	P-II	BGM-109G	SS-20	SS-4	SS-5	SSC-X-4
(ii) Missile transporter vehicle (number of missiles per vehicle)	—	—	17.33 3.20 2.90 (1)	22.85 2.72 2.50 (1)	—	—
(iii) Missile erector	—	—	—	15.62 3.15 3.76	—	—
(iv) Propellant tank (Transportable)	—	—	—	11.38	—	—
Fuel	—	—	—	2.63 2.96	—	—
Oxidizer	—	—	—	10.70 2.63 3.35	—	—

	Pershing IA	Pershing IB	SS-12	SS-23
2. Shorter-Range Missiles				
(a) ***Missile Characteristics:***				
(i) Maximum number of warheads per missile	1	1	1	1
(ii) Length of missile, with front section (meters)	10.55	8.13	12.38	7.52
(iii) Length of				
1st stage (meters)	2.83	3.68	4.38	5.17
2nd stage (meters)	2.67	—	5.37	—
(iv) Maximum diameter of				
1st stage (meters)	1.02	1.02	1.01	0.97
2nd stage (meters)	1.02	—	1.01	—
(v) Weight of GLBM, in metric tons (without front section)	4.09	4.15	8.80	3.99
1st stage	2.45	—	4.16	—
2nd stage	1.64	—	4.64	—
(b) ***Launcher Characteristics:***				
(i) Dimensions (maximum length, width, height in meters)	9.98 2.44 3.35	9.60 2.49 2.86	13.26 3.10 3.45	11.76 3.13 3.00
(ii) Maximum number of missiles each launcher is capable of carrying or containing at one time	1	1	1	1
(iii) Weight (in metric tons)	8.53	12.04	30.80	24.07
(c) ***Characteristics of Support Equipment Associated With Such Missiles and Launchers:***				
Dimensions of support equipment are as follows (maximum length, width, height in meters):				
Missile transporter vehicle (number of missiles per vehicle)	—	—	13.15 3.10 3.50 (1)	11.80 3.13 3.00 (1)

VII. Research and Development Booster Systems

Following are the numbers and locations for each Party of launchers of research and development booster systems.

	Number of Launchers
1. Research and Development Launch Sites	
(a) UNITED STATES OF AMERICA	
Eastern Test Range, Florida 28 27 N 080 42 W	1
Eglin AFB, Florida 30 36 N 086 48 W	5
White Sands Missile Range, New Mexico 32 30 N 106 30 W	4
Green River, Utah 38 00 N 109 30 W	2
Poker Flats Research Range, Alaska 65 07 N 147 29 W	6
Roi Namur, Kwajalein 09 25 N 167 28 E	3
Barking Sands, Kauai, Hawaii 22 06 N 159 47 W	4
Western Test Range, California 34 37 N 120 37 W	1
Cape Cod, Massachusetts 42 01 N 070 07 W	1
Wake Island 19 18 N 166 37 E	2
Wallops Island, Virginia 37 51 N 075 28 W	1
(b) UNION OF SOVIET SOCIALIST REPUBLICS	
Plesetskaya 62 53 N 040 52 E	3
Kapustin Yar 48 32 N 046 18 E	2

Each Party, in signing this Memorandum of Understanding, acknowledges it is responsible for the accuracy of only its own data. Signature of this Memorandum of Understanding constitutes acceptance of the categories of data and inclusion of the data contained herein.

This Memorandum of Understanding is an integral part of the Treaty. It shall enter into force on the date of entry into force of the Treaty and shall remain in force so long as the Treaty remains in force.

DONE at Washington on December 8, 1987, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA

RONALD REAGAN

President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS

M.S. GORBACHEV

General Secretary of the Central Committee of the CPSU

Protocol on Procedures Governing the Elimination of the Missile Systems Subject to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles

Pursuant to and in implementation of the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles of December 8, 1987, hereinafter referred to as the Treaty, the Parties hereby agree upon procedures governing the elimination of the missile systems subject to the Treaty.

I. Items of Missile Systems Subject to Elimination

The specific items for each type of missile system to be eliminated are:

1. For the United States of America:

Pershing II: missile, launcher and launch pad shelter;

BGM-109G: missile, launch canister and launcher;

Pershing IA: missile and launcher; and

Pershing IB: missile.

2. For the Union of Soviet Socialist Republics:

SS-20: missile, launch canister, launcher, missile transporter vehicle and fixed structure for a launcher;

SS-4: missile, missile transporter vehicle, missile erector, launch stand and propellant tanks;

SS-5: missile;

SSC-X-4: missile, launch canister and launcher;

SS-12: missile, launcher and missile transporter vehicle; and

SS-23: missile, launcher and missile transporter vehicle.

3. For both Parties, all training missiles, training missile stages, training launch canisters and training launchers shall be subject to elimination.

4. For both Parties, all stages of intermediate-range and shorter-range GLBMs shall be subject to elimination.

5. For both Parties, all front sections of deployed intermediate-range and shorter-range missiles shall be subject to elimination.

II. Procedures for Elimination at Elimination Facilities

1. In order to ensure the reliable determination of the type and number of missiles, missile stages, front sections, launch canisters, launchers, missile transporter vehicles, missile erectors and launch stands, as well as training missiles, training missile stages, training launch canisters and training launchers, indicated in Section I of this Protocol, being eliminated at elimination facilities, and to preclude the possibility of restoration of such items for purposes inconsistent with the provisions of the Treaty, the Parties shall fulfill the requirements below.

2. The conduct of the elimination procedures for the items of missile systems listed in paragraph 1 of this Section, except for training missiles, training missile stages, training launch canisters and training launchers, shall be subject to on-site inspection in accordance with Article XI of the Treaty and the Protocol on Inspection. The Parties shall have the right to conduct on-site inspections to confirm the completion of the elimination procedures set forth in paragraph 11 of this Section for training missiles, training missile stages, training launch canisters and training launchers. The Party possessing such a training missile, training missile stage, training launch canister or training launcher shall inform the other Party of the name and coordinates of the elimination facility at which the on-site inspection may be conducted as well as the date on which it may be conducted. Such information shall be provided no less than 30 days in advance of that date.

3. Prior to a missile's arrival at the elimination facility, its nuclear warhead device and guidance elements may be removed.

4. Each Party shall select the particular technological means necessary to implement the procedures required in paragraphs 10 and 11 of this Section and to allow for on-site inspection of the conduct of the elimination procedures required in paragraph 10 of this Section in accordance with Article XI of the Treaty, this Protocol and the Protocol on Inspection.

5. The initiation of the elimination of the items of missile systems subject to this Section shall be considered to be the commencement of the procedures set forth in paragraph 10 or 11 of this Section.

6. Immediately prior to the initiation of the elimination procedures set forth in paragraph 10 of this Section, an inspector from the Party receiving the pertinent notification required by paragraph 5(c) of Article IX of the Treaty shall confirm and record the type and number of items of missile systems, listed in paragraph 1 of this Section, which are to be eliminated. If the inspecting Party deems it necessary, this shall include a visual inspection of the contents of launch canisters.

7. A missile stage being eliminated by burning in accordance with the procedures set forth in paragraph 10 of this Section shall not be instrumented for data collection. Prior to the

initiation of the elimination procedures set forth in paragraph 10 of this Section, an inspector from the inspecting Party shall confirm that such missile stages are not instrumented for data collection. Those missile stages shall be subject to continuous observation by such an inspector from the time of that inspection until the burning is completed.

8. The completion of the elimination procedures set forth in this Section, except those for training missiles, training missile stages, training launch canisters and training launchers, along with the type and number of items of missile systems for which those procedures have been completed, shall be confirmed in writing by the representative of the Party carrying out the elimination and by the inspection team leader of the other Party. The elimination of a training missile, training missile stage, training launch canister or training launcher shall be considered to have been completed upon completion of the procedures set forth in paragraph 11 of this Section and notification as required by paragraph 5(e) of Article IX of the Treaty following the date specified pursuant to paragraph 2 of this Section.

9. The Parties agree that all United States and Soviet intermediate-range and shorter-range missiles and their associated reentry vehicles shall be eliminated within an agreed overall period of elimination. It is further agreed that all such missiles shall, in fact, be eliminated fifteen days prior to the end of the overall period of elimination. During the last fifteen days, a Party shall withdraw to its national territory reentry vehicles which, by unilateral decision, have been released from existing programs of cooperation and eliminate them during the same timeframe in accordance with the procedures set forth in this Section.

10. The specific procedures for the elimination of the items of missile systems listed in paragraph 1 of this Section shall be as follows, unless the Parties agree upon different procedures to achieve the same result as the procedures identified in this paragraph:

For the Pershing II:

Missile:

(a) missile stages shall be eliminated by explosive demolition or burning;

(b) solid fuel, rocket nozzles and motor cases not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, minus nuclear warhead device and guidance elements, shall be crushed or flattened.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis; and

(d) launcher chassis shall be cut at a location that is not an assembly joint into two pieces of approximately equal size.

For the BGM-109G:

Missile:

(a) missile airframe shall be cut longitudinally into two pieces;

(b) wings and tail section shall be severed from missile airframe at locations that are not assembly joints; and

(c) front section, minus nuclear warhead device and guidance elements, shall be crushed or flattened.

Launch Canister: launch canister shall be crushed, flattened, cut into two pieces of approximately equal size or destroyed by explosion.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis; and

(d) launcher chassis shall be cut at a location that is not an assembly joint into two pieces of approximately equal size.

For the Pershing IA:

Missile:

(a) missile stages shall be eliminated by explosive demolition or burning;

(b) solid fuel, rocket nozzles and motor cases not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, minus nuclear warhead device and guidance elements, shall be crushed or flattened.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis; and

(d) launcher chassis shall be cut at a location that is not an assembly joint into two pieces of approximately equal size.

For the Pershing IB:

Missile:

(a) missile stage shall be eliminated by explosive demolition or burning;

(b) solid fuel, rocket nozzle and motor case not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, minus nuclear warhead device and guidance elements, shall be crushed or flattened.

For the SS-20:

Missile:

(a) missile shall be eliminated by explosive demolition of the missile in its launch canister or by burning missile stages;

(b) solid fuel, rocket nozzles and motor cases not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, including reentry vehicles, minus nuclear warhead devices, and instrumentation compartment, minus guidance elements, shall be crushed or flattened.

Launch Canister: launch canister shall be destroyed by explosive demolition together with a missile, or shall be destroyed separately by explosion, cut into two pieces of approximately equal size, crushed or flattened.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis;

(d) mountings of erector-launcher mechanism and launcher leveling supports shall be cut off launcher chassis;

(e) launcher leveling supports shall be cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) a portion of the launcher chassis, at least 0.78 meters in length, shall be cut off aft of the rear axle.

Missile Transporter Vehicle:

(a) all mechanisms associated with missile loading and mounting shall be removed from transporter vehicle chassis;

(b) all mountings of such mechanisms shall be cut off transporter vehicle chassis;

(c) all components of the mechanisms associated with missile loading and mounting shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(d) external instrumentation compartments shall be removed from transporter vehicle chassis;

(e) transporter vehicle leveling supports shall be cut off transporter vehicle chassis and cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) a portion of the transporter vehicle chassis, at least 0.78 meters in length, shall be cut off aft of the rear axle.

For the SS-4:

Missile:

(a) nozzles of propulsion system shall be cut off at locations that are not assembly joints;

(b) all propellant tanks shall be cut into two pieces of approximately equal size;

(c) instrumentation compartment, minus guidance elements, shall be cut into two pieces of approximately equal size; and

(d) front section, minus nuclear warhead device, shall be crushed or flattened.

Launch Stand: launch stand components shall be cut at locations that are not assembly joints into two pieces of approximately equal size.

Missile Erector:

(a) jib, missile erector leveling supports and missile erector mechanism shall be cut off missile erector at locations that are not assembly joints; and

(b) jib and missile erector leveling supports shall be cut into two pieces of approximately equal size.

Missile Transporter Vehicle: mounting components for a missile and for a missile erector mechanism as well as supports for erecting a missile onto a launcher shall be cut off transporter vehicle at locations that are not assembly joints.

For the SS-5:

Missile:

(a) nozzles of propulsion system shall be cut off at locations that are not assembly joints;

(b) all propellant tanks shall be cut into two pieces of approximately equal size; and

(c) instrumentation compartment, minus guidance elements, shall be cut into two pieces of approximately equal size.

For the SSC-X-4:

Missile:

(a) missile airframe shall be cut longitudinally into two pieces;

(b) wings and tail section shall be severed from missile airframe at locations that are not assembly joints; and

(c) front section, minus nuclear warhead device and guidance elements, shall be crushed or flattened.

Launch Canister: launch canister shall be crushed, flattened, cut into two pieces of approximately equal size or destroyed by explosion.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis;

(d) mountings of erector-launcher mechanism and launcher leveling supports shall be cut off launcher chassis;

(e) launcher leveling supports shall be cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) the launcher chassis shall be severed at a location determined by measuring no more than 0.70 meters rearward from the rear axle.

For the SS-12:

Missile:

(a) missile shall be eliminated by explosive demolition or by burning missile stages;

(b) solid fuel, rocket nozzles and motor cases not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, minus nuclear warhead device, and instrumentation compartment, minus guidance elements, shall be crushed, flattened or destroyed by explosive demolition together with a missile.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher chassis;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment, including external instrumentation compartments, shall be removed from launcher chassis;

(d) mountings of erector-launcher mechanism and launcher leveling supports shall be cut off launcher chassis;

(e) launcher leveling supports shall be cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) a portion of the launcher chassis, at least 1.10 meters in length, shall be cut off aft of the rear axle.

Missile Transporter Vehicle:

(a) all mechanisms associated with missile loading and mounting shall be removed from transporter vehicle chassis;

(b) all mountings of such mechanisms shall be cut off transporter vehicle chassis;

(c) all components of the mechanisms associated with missile loading and mounting shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(d) external instrumentation compartments shall be removed from transporter vehicle chassis;

(e) transporter vehicle leveling supports shall be cut off transporter vehicle chassis and cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) a portion of the transporter vehicle chassis, at least 1.10 meters in length, shall be cut off aft of the rear axle.

For the SS-23:

Missile:

(a) missile shall be eliminated by explosive demolition or by burning the missile stage;

(b) solid fuel, rocket nozzle and motor case not destroyed in this process shall be burned, crushed, flattened or destroyed by explosion; and

(c) front section, minus nuclear warhead device, and instrumentation compartment, minus guidance elements, shall be crushed, flattened, or destroyed by explosive demolition together with a missile.

Launcher:

(a) erector-launcher mechanism shall be removed from launcher body;

(b) all components of erector-launcher mechanism shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(c) missile launch support equipment shall be removed from launcher body;

(d) mountings of erector-launcher mechanism and launcher leveling supports shall be cut off launcher body;

(e) launcher leveling supports shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(f) each environmental cover of the launcher body shall be removed and cut into two pieces of approximately equal size; and

(g) a portion of the launcher body, at least 0.85 meters in length, shall be cut off aft of the rear axle.

Missile Transporter Vehicle:

(a) all mechanisms associated with missile loading and mounting shall be removed from transporter vehicle body;

(b) all mountings of such mechanisms shall be cut off transporter vehicle body;

(c) all components of mechanisms associated with missile loading and mounting shall be cut at locations that are not assembly joints into two pieces of approximately equal size;

(d) control equipment of the mechanism associated with missile loading shall be removed from transporter vehicle body;

(e) transporter vehicle leveling supports shall be cut off transporter vehicle body and cut at locations that are not assembly joints into two pieces of approximately equal size; and

(f) a portion of the transporter vehicle body, at least 0.85 meters in length, shall be cut off aft of the rear axle.

11. The specific procedures for the elimination of the training missiles, training missile stages, training launch canisters and training launchers indicated in paragraph 1 of this Section shall be as follows:

Training Missile and Training Missile Stage: training missile and training missile stage shall be crushed, flattened, cut into two pieces of approximately equal size or destroyed by explosion.

Training Launch Canister: training launch canister shall be crushed, flattened, cut into two pieces of approximately equal size or destroyed by explosion.

Training Launcher: training launcher chassis shall be cut at the same location designated in paragraph 10 of this Section for launcher of the same type of missile.

III. Elimination of Missiles by Means of Launching

1. Elimination of missiles by means of launching pursuant to paragraph 5 of Article X of the Treaty shall be subject to on-site inspection in accordance with paragraph 7 of Article XI of the Treaty and the Protocol on Inspection. Immediately prior to each launch conducted for the purpose of elimination, an inspector from the inspecting Party shall confirm by visual observation the type of the missile to be launched.

2. All missiles being eliminated by means of launching shall be launched from designated elimination facilities to existing impact areas for such missiles. No such missile shall be used as a target vehicle for a ballistic missile interceptor.

3. Missiles being eliminated by means of launching shall be launched one at a time, and no less than six hours shall elapse between such launches.

4. Such launches shall involve ignition of all missile stages. Neither Party shall transmit or recover data from missiles being eliminated by means of launching except for unencrypted data used for range safety purposes.

5. The completion of the elimination procedures set forth in this Section, and the type and number of missiles for which those procedures have been completed, shall be confirmed in writing by the representative of the Party carrying out the elimination and by the inspection team leader of the other Party.

6. A missile shall be considered to be eliminated by means of launching after completion of the procedures set forth in this Section and upon notification required by paragraph 5(e) of Article IX of the Treaty.

IV. Procedures for Elimination *In Situ*

1. Support Structures

(a) Support structures listed in Section I of this Protocol shall be eliminated *in situ*.

(b) The initiation of the elimination of support structures shall be considered to be the commencement of the elimination procedures required in paragraph 1(d) of this Section.

(c) The elimination of support structures shall be subject to verification by on-site inspection in accordance with paragraph 4 of Article XI of the Treaty.

(d) The specific elimination procedures for support structures shall be as follows:

(i) the superstructure of the fixed structure or shelter shall be dismantled or demolished, and removed from its base or foundation;

(ii) the base or foundation of the fixed structure or shelter shall be destroyed by excavation or explosion;

(iii) the destroyed base or foundation of a fixed structure or shelter shall remain visible to national technical means of verification for six months or until completion of an on-site inspection conducted in accordance with Article XI of the Treaty; and

(iv) upon completion of the above requirements, the elimination procedures shall be considered to have been completed.

2. Propellant Tanks for SS-4 Missiles

Fixed and transportable propellant tanks for SS-4 missiles shall be removed from launch sites.

3. Training Missiles, Training Missile Stages, Training Launch Canisters and Training Launchers

(a) Training missiles, training missile stages, training launch canisters and training launchers not eliminated at elimination facilities shall be eliminated *in situ*.

(b) Training missiles, training missile stages, training launch canisters and training launchers being eliminated *in situ* shall be eliminated in accordance with the specific procedures set forth in paragraph 11 of Section II of this Protocol.

(c) Each Party shall have the right to conduct an on-site inspection to confirm the completion of the elimination procedures for training missiles, training missile stages, training launch canisters and training launchers.

(d) The Party possessing such a training missile, training missile stage, training launch canister or training launcher shall inform the other Party of the place-name and coordinates of the location at which the on-site inspection provided for in paragraph 3(c) of this Section may be conducted as well as the date on which it may be conducted. Such information shall be provided no less than 30 days in advance of that date.

(e) Elimination of a training missile, training missile stage, training launch canister or training launcher shall be considered to have been completed upon the completion of the procedures required by this paragraph and upon notification as required by paragraph 5(e) of Article IX of the Treaty following the date specified pursuant to paragraph 3(d) of this Section.

V. Other Types of Elimination

1. Loss or Accidental Destruction

(a) If an item listed in Section I of this Protocol is lost or destroyed as a result of an accident, the possessing Party shall notify the other Party within 48 hours, as required in paragraph 5(e) of Article IX of the Treaty, that the item has been eliminated.

(b) Such notification shall include the type of the eliminated item, its approximate or assumed location and the circumstances related to the loss or accidental destruction.

(c) In such a case, the other Party shall have the right to conduct an inspection of the specific point at which the accident occurred to provide confidence that the item has been eliminated.

2. Static Display

(a) The Parties shall have the right to eliminate missiles, launch canisters and launchers, as well as training missiles, training launch canisters and training launchers, listed in Section I of this Protocol by placing them on static display. Each Party shall be limited to a total of 15 missiles, 15 launch canisters and 15 launchers on such static display.

(b) Prior to being placed on static display, a missile, launch canister or launcher shall be rendered unusable for purposes inconsistent with the Treaty. Missile propellant shall be removed and erector-launcher mechanisms shall be rendered inoperative.

(c) The Party possessing a missile, launch canister or launcher, as well as a training missile, training launch canister or training launcher that is to be eliminated by placing it on static display shall provide the other Party with the place-name and coordinates of the location at which such a missile, launch canister or launcher is to be on static display, as well as the location at which the on-site inspection provided for in paragraph 2(d) of this Section, may take place.

(d) Each Party shall have the right to conduct an on-site inspection of such a missile, launch canister or launcher within 60 days of receipt of the notification required in paragraph 2(c) of this Section.

(e) Elimination of a missile, launch canister or launcher, as well as a training missile, training launch canister or training launcher, by placing it on static display shall be considered to have been completed upon completion of the procedures required by this paragraph and notification as required by paragraph 5(e) of Article IX of the Treaty.

This Protocol is an integral part of the Treaty. It shall enter into force on the date of the entry into force of the Treaty and shall remain in force so long as the Treaty remains in force. As provided for in paragraph 1(b) of Article XIII of the Treaty, the Parties may agree upon such measures as may be necessary to improve the viability and effectiveness of this Protocol. Such measures shall not be deemed amendments to the Treaty.

DONE at Washington on December 8, 1987, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA

RONALD REAGAN

President of the United States of America

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS

M. GORBACHEV

General Secretary of the Central Committee of the CPSU

Protocol Regarding Inspections Relating to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles

Pursuant to and in implementation of the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles of December 8, 1987, hereinafter referred to as the Treaty, the Parties hereby agree upon procedures governing the conduct of inspections provided for in Article XI of the Treaty.

I. Definitions

For the purposes of this Protocol, the Treaty, the Memorandum of Understanding and the Protocol on Elimination:

1. The term "inspected Party" means the Party to the Treaty whose sites are subject to inspection as provided for by Article XI of the Treaty.

2. The term "inspecting Party" means the Party to the Treaty carrying out an inspection.

3. The term "inspector" means an individual designated by one of the Parties to carry out inspections and included on that Party's list of inspectors in accordance with the provisions of Section III of this Protocol.

4. The term "inspection team" means the group of inspectors assigned by the inspecting Party to conduct a particular inspection.

5. The term "inspection site" means an area, location or facility at which an inspection is carried out.

6. The term "period of inspection" means the period of time from arrival of the inspection team at the inspection site until its departure from the inspection site, exclusive of time spent on any pre- and post-inspection procedures.

7. The term "point of entry" means: Washington, D.C., or San Francisco, California, the United States of America; Brussels (National Airport), The Kingdom of Belgium; Frankfurt (Rhein Main Airbase), The Federal Republic of Germany; Rome (Ciampino), The Republic of Italy; Schiphol, The Kingdom of the Netherlands; RAF Greenham Common, The United Kingdom of Great Britain and Northern Ireland; Moscow, or Irkutsk, the Union of Soviet Socialist Republics; Schkeuditz Airport, the German Democratic Republic; and International Airport Ruzyne, the Czechoslovak Socialist Republic.

8. The term "in-country period" means the period from the arrival of the inspection team at the point of entry until its departure from the country through the point of entry.

9. The term "in-country escort" means individuals specified by the inspected Party to accompany and assist inspectors and aircrew members as necessary throughout the in-country period.

10. The term "aircrew member" means an individual who performs duties related to the operation of an airplane and who is included on a Party's list of aircrew members in accordance with the provisions of Section III of this Protocol.

II. General Obligations

1. For the purpose of ensuring verification of compliance with the provisions of the Treaty, each Party shall facilitate inspection by the other Party pursuant to this Protocol.

2. Each Party takes note of the assurances received from the other Party regarding understandings reached between the other Party and the basing countries to the effect that the basing countries have agreed to the conduct of inspections, in accordance with the provisions of this Protocol, on their territories.

III. Pre-Inspection Requirements

1. Inspections to ensure verification of compliance by the Parties with the obligations assumed under the Treaty shall be carried out by inspectors designated in accordance with paragraphs 3 and 4 of this Section.

2. No later than one day after entry into force of the Treaty, each Party shall provide to the other Party: a list of its proposed aircrew members; a list of its proposed inspectors who will carry out inspections pursuant to paragraphs 3, 4, 5, 7 and 8 of Article XI of the Treaty; and a list of its proposed inspectors who will carry out inspection activities pursuant to paragraph 6 of Article XI of the Treaty. None of these lists shall contain at any time more than 200 individuals.

3. Each Party shall review the lists of inspectors and aircrew members proposed by the other Party. With respect to an individual included on the list of proposed inspectors who will carry out inspection activities pursuant to paragraph 6 of Article XI of the Treaty, if such an individual is unacceptable to the Party reviewing the list, that Party shall, within 20 days, so inform the Party providing the list, and the individual shall be deemed not accepted and shall be deleted from the list. With respect to an individual on the list of proposed aircrew members or the list of proposed inspectors who will carry out inspections pursuant to paragraphs 3, 4, 5, 7 and 8 of Article XI of the Treaty, each Party, within 20 days after the receipt of such lists, shall inform the other Party of its agreement to the

designation of each inspector and aircrew member proposed. Inspectors shall be citizens of the inspecting Party.

4. Each Party shall have the right to amend its lists of inspectors and aircrew members. New inspectors and aircrew members shall be designated in the same manner as set forth in paragraph 3 of this Section with respect to initial lists.

5. Within 30 days of receipt of the initial lists of inspectors and aircrew members, or of subsequent changes thereto, the Party receiving such information shall provide, or shall ensure the provision of, such visas and other documents to each individual to whom it has agreed as may be required to ensure that each inspector or aircrew member may enter and remain in the territory of the Party or basing country in which an inspection site is located throughout the in-country period for the purpose of carrying out inspection activities in accordance with the provisions of this Protocol. Such visas and documents shall be valid for a period of at least 24 months.

6. To exercise their functions effectively, inspectors and aircrew members shall be accorded, throughout the in-country period, privileges and immunities in the country of the inspection site as set forth in the Annex to this Protocol.

7. Without prejudice to their privileges and immunities, inspectors and aircrew members shall be obliged to respect the laws and regulations of the State on whose territory an inspection is carried out and shall be obliged not to interfere in the internal affairs of that State. In the event the inspected Party determines that an inspector or aircrew member of the other Party has violated the conditions governing inspection activities set forth in this Protocol, or has ever committed a criminal offense on the territory of the inspected Party or a basing country, or has ever been sentenced for committing a criminal offense or expelled by the inspected Party or a basing country, the inspected Party making such a determination shall so notify the inspecting Party, which shall immediately strike the individual from the lists of inspectors or the list of aircrew members. If, at that time, the individual is on the territory of the inspected Party or a basing country, the inspecting Party shall immediately remove that individual from the country.

8. Within 30 days after entry into force of the Treaty, each Party shall inform the other Party of the standing diplomatic clearance number for airplanes of the Party transporting inspectors and equipment necessary for inspection into and out of the territory of the Party or basing country in which an inspection site is located. Aircraft routings to and from the designated point of entry shall be along established international airways that are agreed upon by the Parties as the basis for such diplomatic clearance.

IV. Notifications

1. Notification of an intention to conduct an inspection shall be made through the Nuclear Risk Reduction Centers. The receipt of this notification shall be acknowledged through the Nuclear Risk Reduction Centers by the inspected Party within one hour of its receipt:

(a) For inspections conducted pursuant to paragraphs 3, 4 or 5 of Article XI of the Treaty, such notifications shall be made no less than 16 hours in advance of the estimated time of arrival of the inspection team at the point of entry and shall include:

(i) the point of entry;
(ii) the date and estimated time of arrival at the point of entry;
(iii) the date and time when the specification of the inspection site will be provided; and
(iv) the names of inspectors and aircrew members.

(b) For inspections conducted pursuant to paragraphs 7 or 8 of Article XI of the Treaty, such notifications shall be made no less than 72 hours in advance of the estimated time of arrival of the inspection team at the point of entry and shall include:

(i) the point of entry;
(ii) the date and estimated time of arrival at the point of entry;
(iii) the site to be inspected and the type of inspection; and
(iv) the names of inspectors and aircrew members.

2. The date and time of the specification of the inspection site as notified pursuant to paragraph 1(a) of this Section shall fall within the following time intervals:

(a) for inspections conducted pursuant to paragraphs 4 or 5 of Article XI of the Treaty, neither less than four hours nor more than 24 hours after the estimated date and time of arrival at the point of entry; and

(b) for inspections conducted pursuant to paragraph 3 of Article XI of the Treaty, neither less than four hours nor more than 48 hours after the estimated date and time of arrival at the point of entry.

3. The inspecting Party shall provide the inspected Party with a flight plan, through the Nuclear Risk Reduction Centers, for its flight from the last airfield prior to entering the air space of the country in which the inspection site is located to the point of entry, no less than six hours before the scheduled departure time from that airfield. Such a plan shall be filed in accordance with the procedures of the International Civil Aviation Organization applicable to civil aircraft. The inspecting Party shall include in the remarks section of each flight plan the standing diplomatic clearance number and the notation: "Inspection aircraft. Priority clearance processing required."

4. No less than three hours prior to the scheduled departure of the inspection team from the last airfield prior to entering the airspace of the country in which the inspection is to take place, the inspected Party shall ensure that the flight plan filed in accordance with paragraph 3 of this Section is approved so that the inspection team may arrive at the point of entry by the estimated arrival time.

5. Either Party may change the point or points of entry to the territories of the countries within which its deployment areas, missile operating bases or missile support facilities are located, by giving notice of such change to the other Party. A change in a point of entry shall become effective five months after receipt of such notification by the other Party.

V. Activities Beginning Upon Arrival at the Point of Entry

1. The in-country escort and a diplomatic aircrew escort accredited to the Government of either the inspected Party or the basing country in which the inspection site is located shall meet the inspection team and aircrew members at the point of entry as soon as the airplane of the inspecting Party lands. The number of aircrew members for each airplane shall not exceed ten.

The in-country escort shall expedite the entry of the inspection team and aircrew, their baggage, and equipment and supplies necessary for inspection, into the country in which the inspection site is located. A diplomatic aircrew escort shall have the right to accompany and assist aircrew members throughout the in-country period. In the case of an inspection taking place on the territory of a basing country, the in-country escort may include representatives of that basing country.

2. An inspector shall be considered to have assumed his duties upon arrival at the point of entry on the territory of the inspected Party or a basing country, and shall be considered to have ceased performing those duties when he has left the territory of the inspected Party or basing country.

3. Each Party shall ensure that equipment and supplies are exempt from all customs duties.

4. Equipment and supplies which the inspecting Party brings into the country in which an inspection site is located shall be subject to examination at the point of entry each time they are brought into that country. This examination shall be completed prior to the departure of the inspection team from the point of entry to conduct an inspection. Such equipment and supplies shall be examined by the in-country escort in the presence of the inspection team members to ascertain to the satisfaction of each Party that the equipment and supplies cannot perform functions unconnected with the inspection requirements of the Treaty. If it is established upon examination that the equipment or supplies are unconnected with these inspection requirements, then they shall not be cleared for use and shall be impounded at the point of entry until the departure of the inspection team from the country where the inspection is conducted. Storage of the inspecting Party's equipment and supplies at each point of entry shall be within tamper-proof containers within a secure facility. Access to each secure facility shall be controlled by a "dual key" system requiring the presence of both Parties to gain access to the equipment and supplies.

5. Throughout the in-country period, the inspected Party shall provide, or arrange for the provision of, meals, lodging, work space, transportation and, as necessary, medical care for the inspection team and aircrew of the inspecting Party. All the costs in connection with the stay of inspectors carrying out inspection activities pursuant to paragraph 6 of Article XI of the Treaty, on the territory of the inspected Party, including meals, services, lodging, work space, transportation and medical care shall be borne by the inspecting Party.

6. The inspected Party shall provide parking, security protection, servicing and fuel for the airplane of the inspecting Party at the point of entry. The inspecting Party shall bear the cost of such fuel and servicing.

7. For inspections conducted on the territory of the Parties, the inspection team shall enter at the point of entry on the territory of the inspected Party that is closest to the inspection site. In the case of inspections carried out in accordance with paragraphs 3, 4 or 5 of Article XI of the Treaty, the inspection team leader shall, at or before the time notified pursuant to paragraph 1(a)(iii) of Section IV of this Protocol, inform the inspected Party at the point of entry through the in-country escort of the type of inspection and the inspection site, by place-name and geographic coordinates.

VI. General Rules for Conducting Inspections

1. Inspectors shall discharge their functions in accordance with this Protocol.

2. Inspectors shall not disclose information received during inspections except with the express permission of the inspecting Party. They shall remain bound by this obligation after their assignment as inspectors has ended.

3. In discharging their functions, inspectors shall not interfere directly with on-going activities at the inspection site and shall avoid unnecessarily hampering or delaying the operation of a facility or taking actions affecting its safe operation.

4. Inspections shall be conducted in accordance with the objectives set forth in Article XI of the Treaty as applicable for the type of inspection specified by the inspecting Party under paragraph 1(b) of Section IV or paragraph 7 of Section V of this Protocol.

5. The in-country escort shall have the right to accompany and assist inspectors and aircrew members as considered necessary by the inspected Party throughout the in-country period. Except as otherwise provided in this Protocol, the movement and travel of inspectors and aircrew members shall be at the discretion of the in-country escort.

6. Inspectors carrying out inspection activities pursuant to paragraph 6 of Article XI of the Treaty shall be allowed to travel within 50 kilometers from the inspection site with the permission of the in-country escort, and as considered necessary by the inspected Party, shall be accompanied by the in-country escort. Such travel shall be taken solely as a leisure activity.

7. Inspectors shall have the right throughout the period of inspection to be in communication with the embassy of the inspecting Party located within the territory of the country where the inspection is taking place using the telephone communications provided by the inspected Party.

8. At the inspection site, representatives of the inspected facility shall be included among the in-country escort.

9. The inspection team may bring onto the inspection site such documents as needed to conduct the inspection, as well as linear measurement devices; cameras; portable weighing devices; radiation detection devices; and other equipment, as agreed by the Parties. The characteristics and method of use of the equipment listed above, shall also be agreed upon within 30 days after entry into force of the Treaty. During inspections conducted pursuant to paragraphs 3, 4, 5(a), 7 or 8 of Article XI of the Treaty, the inspection team may use any of the equipment listed above, except for cameras, which shall be for use only by the inspected Party at the request of the inspecting Party. During inspections conducted pursuant to paragraph 5(b) of Article XI of the Treaty, all measurements shall be made by the inspected Party at the request of the inspecting Party. At the request of inspectors, the in-country escort shall take photographs of the inspected facilities using the inspecting Party's camera systems which are capable of producing duplicate, instant development photographic prints. Each Party shall receive one copy of every photograph.

10. For inspections conducted pursuant to paragraphs 3, 4, 5, 7 or 8 of Article XI of the Treaty, inspectors shall permit the in-country escort to observe the equipment used during the inspection by the inspection team.

11. Measurements recorded during inspections shall be certified by the signature of a member of the inspection team and a member of the in-country escort when they are taken. Such certified data shall be included in the inspection report.

12. Inspectors shall have the right to request clarifications in connection with ambiguities that arise during an inspection. Such requests shall be made promptly through the in-country escort. The in-country escort shall provide the inspection team, during the inspection, with such clarifications as may be necessary to remove the ambiguity. In the event questions relating to an object or building located within the inspection site are not resolved, the inspected Party shall photograph the object or building as requested by the inspecting Party for the purpose of clarifying its nature and function. If the ambiguity cannot be removed during the inspection, then the question, relevant clarifications and a copy of any photographs taken shall be included in the inspection report.

13. In carrying out their activities, inspectors shall observe safety regulations established at the inspection site, including those for the protection of controlled environments within a facility and for personal safety. Individual protective clothing and equipment shall be provided by the inspected Party, as necessary.

14. For inspections pursuant to paragraphs 3, 4, 5, 7 or 8 of Article XI of the Treaty, pre-inspection procedures, including briefings and safety-related activities, shall begin upon arrival of the inspection team at the inspection site and shall be completed within one hour. The inspection team shall begin the inspection immediately upon completion of the pre-inspection procedures. The period of inspection shall not exceed 24 hours, except for inspections pursuant to paragraphs 6, 7 or 8 of Article XI of the Treaty. The period of inspection may be extended, by agreement with the in-country escort, by no more than eight hours. Post-inspection procedures, which include completing the inspection report in accordance with the provisions of Section XI of this Protocol, shall begin immediately upon completion of the inspection and shall be completed at the inspection site within four hours.

15. An inspection team conducting an inspection pursuant to Article XI of the Treaty shall include no more than ten inspectors, except for an inspection team conducting an inspection pursuant to paragraphs 7 or 8 of that Article, which shall include no more than 20 inspectors and an inspection team conducting an inspection activities pursuant to paragraph 6 of that Article, which shall include no more than 30 inspectors. At least two inspectors on each team must speak the language of the inspected Party. An inspection team shall operate under the direction of the team leader and deputy team leader. Upon arrival at the inspection site, the inspection team may divide itself into subgroups consisting of no fewer than two inspectors each. There shall be no more than one inspection team at an inspection site at any one time.

16. Except in the case of inspections conducted pursuant to paragraphs 3, 4, 7 or 8 of Article XI of the Treaty, upon completion of the post-inspection procedures, the inspection team shall return promptly to the point of entry from which it commenced inspection activities and shall then leave, within 24 hours, the territory of the country in which the inspection site is located, using its own airplane. In the case of inspections conducted pursuant to paragraphs 3, 4, 7 or 8 of Article XI of the Treaty, if the inspection team intends to conduct another inspection it shall either:

(a) notify the inspected Party of its intent upon return to the point of entry; or

(b) notify the inspected Party of the type of inspection and the inspection site upon completion of the post-inspection procedures. In this case it shall be the responsibility of the inspected Party to ensure that the inspection team reaches the next inspection site without unjustified delay. The inspected Party shall determine the means of transportation and route involved in such travel.

With respect to subparagraph (a), the procedures set forth in paragraph 7 of Section V of this Protocol and paragraphs 1 and 2 of Section VII of this Protocol shall apply.

VII. Inspections Conducted Pursuant to Paragraphs 3, 4 or 5 of Article XI of the Treaty

1. Within one hour after the time for the specification of the inspection site notified pursuant to paragraph 1(a) of Section IV of this Protocol, the inspected Party shall implement pre-inspection movement restrictions at the inspection site, which shall remain in effect until the inspection team arrives at the inspection site. During the period that pre-inspection movement restrictions are in effect, missiles, stages of such missiles, launchers or support equipment subject to the Treaty shall not be removed from the inspection site.

2. The inspected Party shall transport the inspection team from the point of entry to the inspection site so that the inspection team arrives at the inspection site no later than nine hours after the time for the specification of the inspection site notified pursuant to paragraph 1(a) of Section IV of this Protocol.

3. In the event that an inspection is conducted in a basing country, the aircrew of the inspected Party may include representatives of the basing country.

4. Neither Party shall conduct more than one inspection pursuant to paragraph 5(a) of Article XI of the Treaty at any one time, more than one inspection pursuant to paragraph 5(b) of Article XI of the Treaty at any one time, or more than 10 inspections pursuant to paragraph 3 of Article XI of the Treaty at any one time.

5. The boundaries of the inspection site at the facility to be inspected shall be the boundaries of that facility set forth in the Memorandum of Understanding.

6. Except in the case of an inspection conducted pursuant to paragraphs 4 or 5(b) of Article XI of the Treaty, upon arrival of the inspection team at the inspection site, the in-country escort shall inform the inspection team leader of the number of missiles, stages of missiles, launchers, support structures and support equipment at the site that are subject to the Treaty and provide the inspection team leader with a diagram of the inspection site indicating the location of these missiles, stages of missiles, launchers, support structures and support equipment at the inspection site.

7. Subject to the procedures of paragraphs 8 through 14 of this Section, inspectors shall have the right to inspect the entire inspection site, including the interior of structures, containers or vehicles, or including covered objects, whose dimensions are equal to or greater than the dimensions specified in Section VI of the Memorandum of Understanding for the missiles, stages of such missiles, launchers or support equipment of the inspected Party.

8. A missile, a stage of such a missile or a launcher subject to the Treaty shall be subject to inspection only by external visual observation, including measuring, as necessary, the dimensions of such a missile, stage of such a missile or launcher. A container that the inspected Party declares to contain a missile or stage of a missile subject to the Treaty, and which is not sufficiently large to be capable of containing more than one missile or stage of such a missile of the inspected Party subject to the Treaty, shall be subject to inspection only by external visual observation, including measuring, as necessary, the dimensions of such a container to confirm that it cannot contain more than one missile or stage of such a missile of the inspected Party subject to the Treaty. Except as provided for in paragraph 14 of this Section, a container that is sufficiently large to contain a missile or stage of such a missile of the inspected Party subject to the Treaty that the inspected Party declares not to contain a missile or stage of such a missile subject to the Treaty shall be subject to inspection only by means of weighing or visual observation of the interior of the container, as necessary, to confirm that it does not, in fact, contain a missile or stage of such a missile of the inspected Party subject to the Treaty. If such a container is a launch canister associated with a type of missile not subject to the Treaty, and declared by the inspected Party to contain such a missile, it shall be subject to external inspection only, including use of radiation detection devices, visual observation and linear measurement, as necessary, of the dimensions of such a canister.

9. A structure or container that is not sufficiently large to contain a missile, stage of such a missile or launcher of the inspected Party subject to the Treaty shall be subject to inspection only by external visual observation including measuring, as necessary, the dimensions of such a structure or container to confirm that it is not sufficiently large to be capable of containing a missile, stage of such a missile or launcher of the inspected Party subject to the Treaty.

10. Within a structure, a space which is sufficiently large to contain a missile, stage of such a missile or launcher of the inspected Party subject to the Treaty, but which is demonstrated to the satisfaction of the inspection team not to be accessible by the smallest missile, stage of a missile or launcher of the inspected Party subject to the Treaty shall not be subject to further inspection. If the inspected Party demonstrates to the satisfaction of the inspection team by means of a visual inspection of the interior of an enclosed space from its entrance that the enclosed space does not contain any missile, stage of such a missile or launcher of the inspected Party subject to the Treaty, such an enclosed space shall not be subject to further inspection.

11. The inspection team shall be permitted to patrol the perimeter of the inspection site and station inspectors at the exits of the site for the duration of the inspection.

12. The inspection team shall be permitted to inspect any vehicle capable of carrying missiles, stages of such missiles, launchers or support equipment of the inspected Party subject to the Treaty at any time during the course of an inspection and no such vehicle shall leave the inspection site during the course of the inspection until inspected at site exits by the inspection team.

13. Prior to inspection of a building within the inspection site, the inspection team may station subgroups at the exits of the building that are large enough to permit passage of any missile, stage of such a missile, launcher or support equipment of the inspected Party subject to the Treaty. During the time that the building is being inspected, no vehicle or object capable of containing any missile, stage of such a missile, launcher or support equipment of the inspected Party subject to the Treaty shall be permitted to leave the building until inspected.

14. During an inspection conducted pursuant to paragraph 5(b) of Article XI of the Treaty, it shall be the responsibility of the inspected Party to demonstrate that a shrouded or environmentally protected object which is equal to or larger than the smallest missile, stage of a missile or launcher of the inspected Party subject to the Treaty is not, in fact, a missile, stage of such a missile or launcher of the inspected Party subject to the Treaty. This may be accomplished by partial removal of the shroud or environmental protection cover, measuring, or weighing the covered object or by other methods. If the inspected Party satisfies the inspection team by its demonstration that the object is not a missile, stage of such a missile or launcher of the inspected Party subject to the Treaty, then there shall be no further inspection of that object. If the container is a launch canister associated with a type of missile not subject to the Treaty, and declared by the inspected Party to contain such a missile, then it shall be subject to external inspection only, including use of radiation detection devices, visual observation and linear measurement, as necessary, of the dimensions of such a canister.

VIII. Inspections Conducted Pursuant to Paragraphs 7 or 8 of Article XI of the Treaty

1. Inspections of the process of elimination of items of missile systems specified in the Protocol on Elimination carried out pursuant to paragraph 7 of Article XI of the Treaty shall be conducted in accordance with the procedures set forth in this paragraph and the Protocol on Elimination:

(a) Upon arrival at the elimination facility, inspectors shall be provided with a schedule of elimination activities.

(b) Inspectors shall check the data which are specified in the notification provided by the inspected Party regarding the number and type of items of missile systems to be eliminated against the number and type of such items which are at the elimination facility prior to the initiation of the elimination procedures.

(c) Subject to paragraphs 3 and 11 of Section VI of this Protocol, inspectors shall observe the execution of the specific procedures for the elimination of the items of missile systems as provided for in the Protocol on Elimination. If any deviations from the agreed elimination procedures are found, the inspectors shall have the right to call the attention of the in-

country escort to the need for strict compliance with the above-mentioned procedures. The completion of such procedures shall be confirmed in accordance with the procedures specified in the Protocol on Elimination.

(d) During the elimination of missiles by means of launching, the inspectors shall have the right to ascertain by visual observation that a missile prepared for launch is a missile of the type subject to elimination. The inspectors shall also be allowed to observe such a missile from a safe location specified by the inspected Party until the completion of its launch. During the inspection of a series of launches for the elimination of missiles by means of launching, the inspected Party shall determine the means of transport and route for the transportation of inspectors between inspection sites.

2. Inspections of the elimination of items of missile systems specified in the Protocol on Elimination carried out pursuant to paragraph 8 of Article XI of the Treaty shall be conducted in accordance with the procedures set forth in Sections II, IV or V of the Protocol on Elimination or as otherwise agreed by the Parties.

IX. Inspection Activities Conducted Pursuant to Paragraph 6 of Article XI of the Treaty

1. The inspected Party shall maintain an agreed perimeter around the periphery of the inspection site and shall designate a portal with not more than one rail line and one road which shall be within 50 meters of each other. All vehicles which can contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party shall exit only through this portal.

2. For the purposes of this Section, the provisions of paragraph 10 of Article VII of the Treaty shall be applied to intermediate-range GLBMs of the inspected Party and the longest stage of such GLBMs.

3. There shall not be more than two other exits from the inspection site. Such exits shall be monitored by appropriate sensors. The perimeter of and exits from the inspection site may be monitored as provided for by paragraph 11 of Section VII of this Protocol.

4. The inspecting Party shall have the right to establish continuous monitoring systems at the portal specified in paragraph 1 of this Section and appropriate sensors at the exits specified in paragraph 3 of this Section and carry out necessary engineering surveys, construction, repair and replacement of monitoring systems.

5. The inspected Party shall, at the request of and at the expense of the inspecting Party, provide the following:

(a) all necessary utilities for the construction and operation of the monitoring systems, including electrical power, water, fuel, heating and sewage;

(b) basic construction materials including concrete and lumber;

(c) the site preparation necessary to accommodate the installation of continuously operating systems for monitoring the portal specified in paragraph 1 of this Section, appropriate sensors for other exits specified in paragraph 3 of this Section and the center for collecting data obtained during inspections. Such preparation may include ground excavation, laying of concrete foundations, trenching between equipment locations and utility connections;

(d) transportation for necessary installation tools, materials and equipment from the point of entry to the inspection site; and

(e) a minimum of two telephone lines and, as necessary, high frequency radio equipment capable of allowing direct communication with the embassy of the inspecting Party in the country in which the site is located.

6. Outside the perimeter of the inspection site, the inspecting Party shall have the right to:

(a) build no more than three buildings with a total floor space of not more than 150 square meters for a data center and inspection team headquarters, and one additional building with floor space not to exceed 500 square meters for the storage of supplies and equipment;

(b) install systems to monitor the exits to include weight sensors, vehicle sensors, surveillance systems and vehicle dimensional measuring equipment;

(c) install at the portal specified in paragraph 1 of this Section equipment for measuring the length and diameter of missile stages contained inside of launch canisters or shipping containers;

(d) install at the portal specified in paragraph 1 of this Section non-damaging image producing equipment for imaging the contents of launch canisters or shipping containers declared to contain missiles or missile stages as provided for in paragraph 11 of this Section;

(e) install a primary and back-up power source; and

(f) use, as necessary, data authentication devices.

7. During the installation or operation of the monitoring systems, the inspecting Party shall not deny the inspected Party access to any existing structures or security systems. The inspecting Party shall not take any actions with respect to such structures without consent of the inspected Party. If the Parties agree that such structures are to be rebuilt or demolished, either partially or completely, the inspecting Party shall provide the necessary compensation.

8. The inspected Party shall not interfere with the installed equipment or restrict the access of the inspection team to such equipment.

9. The inspecting Party shall have the right to use its own two-way systems of radio communication between inspectors patrolling the perimeter and the data collection center. Such systems shall conform to power and frequency restrictions established on the territory of the inspected Party.

10. Aircraft shall not be permitted to land within the perimeter of the monitored site except for emergencies at the site and with prior notification to the inspection team.

11. Any shipment exiting through the portal specified in paragraph 1 of this Section which is large enough and heavy enough to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party shall be declared by the inspected Party to the inspection team before the shipment arrives at the portal. The declaration shall state whether such a shipment contains a missile or missile stage as large or larger than and as heavy or heavier than an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party.

12. The inspection team shall have the right to weigh and measure the dimensions of any vehicle, including railcars, exiting the site to ascertain whether it is large enough and heavy enough to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party. These measurements shall be performed so as to minimize the delay of vehicles exiting the site. Vehicles that are either not large enough or not heavy enough to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party shall not be subject to further inspection.

13. Vehicles exiting through the portal specified in paragraph 1 of this Section that are large enough and heavy enough to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party but that are declared not to contain a missile or missile stage as large or larger than and as heavy or heavier than an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party shall be subject to the following procedures.

(a) The inspecting Party shall have the right to inspect the interior of all such vehicles.

(b) If the inspecting Party can determine by visual observation or dimensional measurement that, inside a particular vehicle, there are no containers or shrouded objects large enough to be or to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party, then that vehicle shall not be subject to further inspection.

(c) If inside a vehicle there are one or more containers or shrouded objects large enough to be or to contain an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party, it shall be the responsibility of the inspected Party to demonstrate that such containers or shrouded objects are not and do not contain intermediate-range GLBMs or the longest stages of such GLBMs of the inspected Party.

14. Vehicles exiting through the portal specified in paragraph 1 of this Section that are declared to contain a missile or missile stage as large or larger than and as heavy or heavier than an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party shall be subject to the following procedures.

(a) The inspecting Party shall preserve the integrity of the inspected missile or stage of a missile.

(b) Measuring equipment shall be placed only outside of the launch canister or shipping container; all measurements shall be made by the inspecting Party using the equipment provided for in paragraph 6 of this Section. Such measurements shall be observed and certified by the in-country escort.

(c) The inspecting Party shall have the right to weigh and measure the dimensions of any launch canister or of any shipping container declared to contain such a missile or missile stage and to image the contents of any launch canister or of any shipping container declared to contain such a missile or missile stage; it shall have the right to view such missiles or missile stages contained in launch canisters or shipping containers eight times per calendar year. The in-country escort shall be present during all phases of such viewing. During such interior viewing:

(i) the front end of the launch canister or the cover of the shipping container shall be opened;

(ii) the missile or missile stage shall not be removed from its launch canister or shipping container; and

(iii) the length and diameter of the stages of the missile shall be measured in accordance with the methods agreed by the Parties so as to ascertain that the missile or missile stage is not an intermediate-range GLBM of the inspected Party, or the longest stage of such a GLBM, and that the missile has no more than one stage which is outwardly similar to a stage of an existing type of intermediate-range GLBM.

(d) The inspecting Party shall also have the right to inspect any other containers or shrouded objects inside the vehicle containing such a missile or missile stage in accordance with the procedures in paragraph 13 of this Section.

X. Cancellation of Inspection

An inspection shall be cancelled if, due to circumstances brought about by *force majeure,* it cannot be carried out. In the case of a delay that prevents an inspection team performing an inspection pursuant to paragraphs 3, 4 or 5 of Article XI of the Treaty, from arriving at the inspection site during the time specified in paragraph 2 of Section VII of this Protocol, the inspecting Party may either cancel or carry out the inspection. If an inspection is cancelled due to circumstances brought about by *force majeure* or delay, then the number of inspections to which the inspecting Party is entitled shall not be reduced.

XI. Inspection Report

1. For inspections conducted pursuant to paragraphs 3, 4, 5, 7 or 8 of Article XI of the Treaty, during post-inspection procedures, and no later than two hours after the inspection has been completed, the inspection team leader shall provide the in-country escort with a written inspection report in both the English and Russian languages. The report shall be factual. It shall include the type of inspection carried out, the inspection site, the number of missiles, stages of missiles, launchers and items of support equipment subject to the Treaty observed during the period of inspection and any measurements recorded pursuant to paragraph 10 of Section VI of this Protocol. Photographs taken during the inspection in accordance with agreed procedures, as well as the inspection site diagram provided for by paragraph 6 of Section VII of this Protocol, shall be attached to this report.

2. For inspection activities conducted pursuant to paragraph 6 of Article XI of the Treaty, within 3 days after the end of each month, the inspection team leader shall provide the in-country escort with a written inspection report both in the English and Russian languages. The report shall be factual. It shall include the number of vehicles declared to contain a missile or stage of a missile as large or larger than and as heavy or heavier than an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party that left the inspection site through the portal specified in paragraph 1 of Section IX of this Protocol during that month. The report shall also include any measurements of launch canisters or shipping containers contained in these vehicles recorded pursuant to paragraph 11 of Section VI of this Protocol. In the event the inspecting Party, under the provisions of paragraph 14(c) of Section IX of this Protocol, has viewed the interior of a launch canister or shipping container

declared to contain a missile or stage of a missile as large or larger than and as heavy or heavier than an intermediate-range GLBM or longest stage of such a GLBM of the inspected Party, the report shall also include the measurements of the length and diameter of missile stages obtained during the inspection and recorded pursuant to paragraph 11 of Section VI of this Protocol. Photographs taken during the inspection in accordance with agreed procedures shall be attached to this report.

3. The inspected Party shall have the right to include written comments in the report.

4. The Parties shall, when possible, resolve ambiguities regarding factual information contained in the inspection report. Relevant clarifications shall be recorded in the report. The report shall be signed by the inspection team leader and by one of the members of the in-country escort. Each Party shall retain one copy of the report.

This Protocol is an integral part of the Treaty. It shall enter into force on the date of entry into force of the Treaty and shall remain in force as long as the Treaty remains in force. As provided for in paragraph 1(b) of Article XIII of the Treaty, the Parties may agree upon such measures as may be necessary to improve the viability and effectiveness of this Protocol. Such measures shall not be deemed amendments to the Treaty.

FOR THE UNITED STATES OF AMERICA

RONALD REAGAN

President of the United States of America

DONE at Washington on December 8, 1987, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS

M. GORBACHEV

General Secretary of the Central Committee of the CPSU

ANNEX

Provisions on Privileges and Immunities of Inspectors and Aircrew Members

In order to exercise their functions effectively, for the purpose of implementing the Treaty and not for their personal benefit, the inspectors and aircrew members referred to in Section III of this Protocol shall be accorded the privileges and immunities contained in this Annex. Privileges and immunities shall be accorded for the entire in-country period in the country in which an inspection site is located, and thereafter with respect to acts previously performed in the exercise of official functions as an inspector or aircrew member.

1. Inspectors and aircrew members shall be accorded the inviolability enjoyed by diplomatic agents pursuant to Article 29 of the Vienna Convention on Diplomatic Relations of April 18, 1961.

2. The living quarters and office premises occupied by an inspector carrying out inspection activities pursuant to paragraph 6 of Article XI of the Treaty shall be accorded the inviolability and protection accorded the premises of diplomatic agents pursuant to Article 30 of the Vienna Convention on Diplomatic Relations.

3. The papers and correspondence of inspectors and aircrew members shall enjoy the inviolability accorded to the papers and correspondence of diplomatic agents pursuant to Article 30 of the Vienna Convention on Diplomatic Relations. In addition, the aircraft of the inspection team shall be inviolable.

4. Inspectors and aircrew members shall be accorded the immunities accorded diplomatic agents pursuant to paragraphs 1, 2 and 3 of Article 31 of the Vienna Convention on Diplomatic Relations. The immunity from jurisdiction of an inspector or an aircrew member may be waived by the inspecting Party in those cases when it is of the opinion that immunity would impede the course of justice and that it can be waived without prejudice to the implementation of the provisions of the Treaty. Waiver must always be express.

5. Inspectors carrying out inspection activities pursuant to paragraph 6 of Article XI of the Treaty shall be accorded the exemption from dues and taxes accorded to diplomatic agents pursuant to Article 34 of the Vienna Convention on Diplomatic Relations.

6. Inspectors and aircrew members of a Party shall be permitted to bring into the territory of the other Party or a basing country in which an inspection site is located, without payment of any customs duties or related charges, articles for their personal use, with the exception of articles the import or export of which is prohibited by law or controlled by quarantine regulations.

7. An inspector or aircrew member shall not engage in any professional or commercial activity for personal profit on the territory of the inspected Party or that of the basing countries.

8. If the inspected Party considers that there has been an abuse of privileges and immunities specified in this Annex, consultations shall be held between the Parties to determine whether such an abuse has occurred and, if so determined, to prevent a repetition of such an abuse.

APPENDIX B

ON-SITE INSPECTION AGENCY AND INF TREATY CHRONOLOGY

1987

December 1. A Joint Chiefs of Staff Task Force, under the leadership of Brigadier General Eugene L. Daniel, begins work on a concept of operations and organizational structure for the implementation of the INF Treaty.

December 8. President Ronald Reagan and General Secretary Mikhail Gorbachev sign the INF Treaty in Washington, D.C.

1988

January 15. President Reagan, accepting the JCS Task Force recommendations, directs the Secretary of Defense to establish the On-Site Inspection Agency (OSIA).

January 25. President Reagan submits the INF Treaty to the U.S. Senate for hearings, debate, and the exercise of its constitutional role in ratifying the treaty.

January 26. William H. Taft IV, Deputy Secretary of Defense, establishes OSIA as a separate operating agency of the Department of Defense.

February 1. Brigadier General Roland Lajoie (USA) becomes the first OSIA Director.

February 8. The first cadre of 40 military inspectors, escorts, linguists, and civilian staff arrives at OSIA headquarters at Buzzard Point, Washington, D.C.

February 23. The U.S. Nuclear Risk Reduction Center (NRRC), located in the State Department, becomes operational. Assistant Secretary of State H. Allen Holmes is named as the first NRRC Director.

March 9-12. The first round of INF Treaty Technical Talks is held in Moscow. The U.S. delegation is led by Brigadier General Lajoie, Director OSIA; the Soviet delegation is headed by General Major Vladimir I. Medvedev, Director of the Soviet Nuclear Risk Reduction Center.

March 30. U.S. Senate Foreign Relations Committee favorably reports the INF Treaty out of committee and submits it to the Senate for debate.

April 15-June 9. OSIA conducts full-scale mock inspections with the cooperation of the U.S. Air Force and U.S. Army at 31 INF facilities in the United States and Europe.

May 1. The Nuclear Risk Reduction Centers in Moscow and Washington achieve operational readiness for communicating INF Treaty notifications in Russian and English.

May 10-11. At a U.S.-Soviet ministerial meeting in Geneva, Secretary of State George Schultz and Soviet Foreign Minister Eduard Shevardnadze resolve key INF Treaty implementation issues.

May 12. U.S. INF Treaty chief negotiator Maynard Glitman and Soviet treaty representative Colonel General Nikolay Chernov exchange a diplomatic note, formally incorporating the ministerial decisions into the treaty.

May 16-27. The U.S. Senate debates the INF Treaty. It votes 93 to 5 in favor of the treaty on May 27, sending the formal Senate resolution on ratification to President Reagan, who is attending the Moscow Summit.

May 18-22. The final round of INF Treaty Technical Talks convenes in Vienna.

May 21. The United States and the Soviet Union exchange a list of corrected data for the INF Treaty's Memorandum of Understanding. This new data list corrected site coordinates and the number and dimensions of the INF missiles, launchers, and support equipment.

June 1. President Reagan and General Secretary Gorbachev exchange the instruments of ratification in Moscow. The INF Treaty enters into force. Baseline and continuous portal monitoring inspections begin in 30 days.

June 6-July 15. The first session of the Special Verification Commission (SVC) meets in Geneva. U.S. commissioner Steven Steiner and Soviet commissioner Mikhail Strel'tsov lead the delegations.

June 22. The U.S. Arms Control Implementation Unit (ACIU) is established in U.S. Embassy, Moscow. Its mission is to assist U.S. aircrews and inspection teams who are conducting INF Treaty and other treaty on-site inspections in the Soviet Union.

July 1. The first U.S. inspection team arrives in Moscow to conduct the first of 133 INF Treaty baseline inspections, which must be completed within 60 days.

July 1. The first U.S. portal inspection team arrives in Moscow, flies to the Ural Mountains, and initiates continuous portal monitoring inspections at the Votkinsk Machine Building Plant.

July 2. The first teams of Soviet inspectors arrive at Travis Air Force Base, California, to initiate baseline inspections of U.S. INF facilities. The group includes the first team of Soviet portal monitoring inspectors and equipment bound for Magna, Utah.

July 5. Soviet inspectors begin continuous portal monitoring of the Hercules Plant No. 1, at Magna, Utah.

July 22. The first Soviet SS-20 missile and canister are eliminated under INF Treaty at the Kapustin Yar Missile Test Complex.

August 1. The first Soviet SS-12 missile is eliminated at the Saryozek Missile Elimination Facility.

August 25. The first Soviet SS-20 missiles are eliminated by launching at the Chita and Kansk missile sites.

August 29. All INF Treaty baseline inspections are completed. During the 60-day period, the United States conducted 133 inspections of Soviet INF facilities. The Soviet Union conducted 31 inspections of U.S. INF missile sites. Both nations initiated continuous portal monitoring inspections.

September 8. The first U.S. missile elimination is conducted. With Vice President George Bush in attendance, Soviet inspectors observe the elimination of a Pershing IA first stage and a Pershing II first-stage rocket motor at the Longhorn Army Ammunition Plant in Longhorn, Texas.

October 5. Elimination of the Soviet SSC-X-4 cruise missile system is completed.

October 18. The first Pershing II launchers are eliminated at the U.S. Army Equipment Maintenance Center at Hausen, West Germany.

October 18. The first U.S. ground-launched cruise missiles (GLCMs) are eliminated at Davis-Monthan Air Force Base, Arizona.

November 30. A key INF Treaty deadline is reached—all missile eliminations by launching must be completed. The Soviet Union eliminated 72 SS-20 missiles by this method, the United States none.

December 30. INF Treaty Memorandum of Understanding is updated in an exchange of data between U.S. and Soviet Nuclear Risk Reduction Centers (NRRCs).

1989

February 28. OSIA headquarters is relocated from Buzzard Point in southeast Washington, D.C., to Dulles International Airport.

April 10. At Votkinsk, U.S. portal monitoring inspectors move into permanent housing and staff quarters located next to the missile assembly plant.

April 17. At Magna, Soviet portal monitoring inspectors move into a permanent housing complex in West Jordan, Utah, located approximately five miles from the Hercules Rocket Motor Production Plant.

May 31. The end of the first treaty year. Since entry into force, U.S. inspectors had conducted 244 on-site inspections and observed 945 Soviet INF missiles being eliminated. Soviet inspectors completed 96 inspections and monitored the elimination of 324 U.S. INF missiles. Portal monitoring inspectors had conducted continuous inspections at Votkinsk and at Magna.

July 6. The last of 169 U.S. Pershing 1A missiles is eliminated at the Longhorn Army Ammunition Plant, Texas.

July 25. The last of 718 Soviet SS-12 missiles is eliminated at the Saryozek Missile Elimination Facility.

August 9. The sixth and final SS-5 missile is eliminated at the Lesnaya Missile Elimination Facility.

October 27. The last of 239 SS-23 missiles is destroyed at the Saryozek Missile Elimination Facility. The final SS-23 launcher is eliminated the same day at the Stan'kovo Elimination Facility.

November 30. The treaty deadline is reached for eliminating all shorter-range INF missiles and launchers. Both nations met this deadline. The United States eliminated 169 Pershing IAs; the Soviet Union 718 SS-12s and 239 SS-23 missiles.

December 21. At the Special Verification Commission (SVC) in Geneva, SVC commissioners Steiner and Strel'tsov sign the INF Treaty's Memorandum of Agreement. This agreement codifies existing procedures for treaty notifications, elimination procedures, inspection procedures, and the technical characteristics of the INF missile systems.

1990

March 21. At the U.S. portal monitoring site in Votkinsk, the CargoScan X-ray imaging system becomes operational.

May 22. The last of 149 Soviet SS-4 missiles is eliminated at the Lesnaya Missile Elimination Facility. The only remaining Soviet INF system is the SS-20.

May 31. The end of the second treaty year. Since entry into force, the United States had conducted 346 inspections and observed the elimination of 1,646 missiles. The Soviet Union had carried out 142 inspections and monitored the elimination of 495 missiles. Portal monitoring inspections had been conducted continuously at Votkinsk and Magna.

June 1. President Bush and President Gorbachev sign the Protocols to the Threshold Test Ban Treaty and the Peaceful Nuclear Explosions Treaty at the Washington Summit. The On-Site Inspection Agency receives, in a presidential directive, the mission to plan, train, and prepare for on-site inspections under these treaties. At the same time, the agency is authorized to prepare and train for implementing two other arms reduction treaties in the final stages of negotiations—the Conventional Armed Forces in Europe (CFE) Treaty and the Strategic Arms Reduction Treaty (START).

September 25. The U.S. Senate, following hearings and debate, votes 98 to 0 in favor of ratifying the two nuclear testing treaties.

October 9. The USSR's Supreme Soviet ratifies the nuclear testing treaties.

November 19. The Conventional Armed Forces in Europe Treaty is signed by 22 states in Paris, France.

December 11. The Threshold Test Ban Treaty and Peaceful Nuclear Explosions Treaty and the new protocols authorizing and detailing on-site inspections enter into force.

1991

January 22. Major General Roland Lajoie, Director OSIA, is reassigned as the Deputy Director for International Negotiations, Joint Chiefs of Staff. As OSIA's first Director, General Lajoie led the agency in implementing the INF Treaty and directed its expansion as it prepared for implementing the on-site inspection provisions of the Nuclear Testing Treaties, the CFE Treaty, and the START Treaty.

January 25. Major General Robert W. Parker (USAF) assumes command, becoming the second OSIA Director.

February 24. A Soviet delegation arrives in Washington for the first Coordinating Group Meeting to plan for the first U.S. nuclear test to be monitored under the Threshold Test Ban Treaty.

April 16. The final Pershing II launcher is eliminated at the U.S. Army EMC Facility in West Germany. The United States eliminated a total of 165 Pershing II launchers.

May 1. The final GLCM missile and launcher elimination is conducted at Davis-Monthan Air Force Base, Arizona. In all, the United States eliminated 443 missiles and 123 launchers.

May 6. The last of 234 Pershing II missiles is eliminated at the Longhorn Army Ammunition Plant, Marshall, Texas.

May 12. The last of 654 SS-20 missiles is eliminated at the Kapustin Yar Missile Test Complex.

May 28. The last of 499 SS-20 launchers is eliminated at the Sarny Launcher Elimination Facility.

May 31. The end of the third treaty year. Since the treaty entered into force on June 1, 1988, the United States conducted 421 on-site inspections and monitored the elimination of 1,846 Soviet INF missiles. The Soviet Union conducted 207 inspections and observed the elimination of 846 U.S. INF missiles. Inspectors from both nations established and maintained continuous portal monitoring inspections of the respective INF missile production facilities.

APPENDIX C

ON-SITE INSPECTION AGENCY KEY PERSONNEL

JANUARY 1988-MAY 1991

DIRECTOR

Brigadier General Roland Lajoie, USA	February 1988-January 1991
Major General Robert W. Parker, USAF	January 1991-

PRINCIPAL DEPUTY DIRECTOR

George L. Rueckert	February 1988-September 1988
Edward J. Lacey	September 1988-January 1990
Joerg H. Menzel	January 1990-

DEPUTY DIRECTOR, INTERNATIONAL NEGOTIATIONS

Raymond F. Smith	February 1988-July 1988
David A. Pabst	July 1988-

DEPUTY DIRECTOR, COUNTERINTELLIGENCE

Edward J. Curran	March 1988-October 1990
Frank A. LoTurco	October 1990-

JANUARY 1988-MAY1991

CHIEF OF STAFF

Colonel Albert E. Hervey, USA	February 1988-March 1988
Lt. Colonel Albert E. Shively, Jr., USMC	April 1988-September 1988
Colonel Robert B. McConnell, USAF	October 1988-November 1989
Colonel Douglas M. Englund, USA	November 1989-May 1991
Colonel James S. Loftus, Jr., USA	May 1991-

DIRECTOR FOR OPERATIONS

Colonel Robert B. McConnell, USAF	February 1988-October 1988
Colonel Ronald P. Forest, USA	October 1988-

DIRECTOR FOR PORTAL OPERATIONS

Colonel Douglas M. Englund, USA	February 1988-October 1989
Colonel George M. Connell, USMC	October 1989-September 1990
Colonel Lawrence K. Burgess, USMC	September 1990-

DIRECTOR FOR SUPPORT

Colonel Stephen A. Huff, USAF	August 1988-

CHIEF OF INSPECTION DIVISION

Colonel Serge A. Chernay, USAF	February 1988-October 1988
Captain David E. Olsen, USN	May 1988-April 1990
Colonel Nils L. Wurzburger, USAF	April 1990-September 1990
Captain John C. Williams, USN	September 1990-

JANUARY 1988-MAY 1991

CHIEF OF ESCORT DIVISION

Colonel Ronald P. Forest, USA	February 1988-October 1988
Colonel Gerald V. West, USAF	October 1988-

CHIEF OF PORTAL OPERATIONS, MAGNA

Lt. Commander James L. Szatkowski, USN	April 1988-September 1989
Colonel William R. McNally, USAF	September 1989-

CHIEF OF WASHINGTON FIELD OFFICE

Colonel Gerald V. West USAF	February 1988-October 1988
Lt. Colonel Albert E. Shively, Jr., USMC	October 1988-January 1991
Lt. Colonel Robert A. Marshall, USA	January 1991-

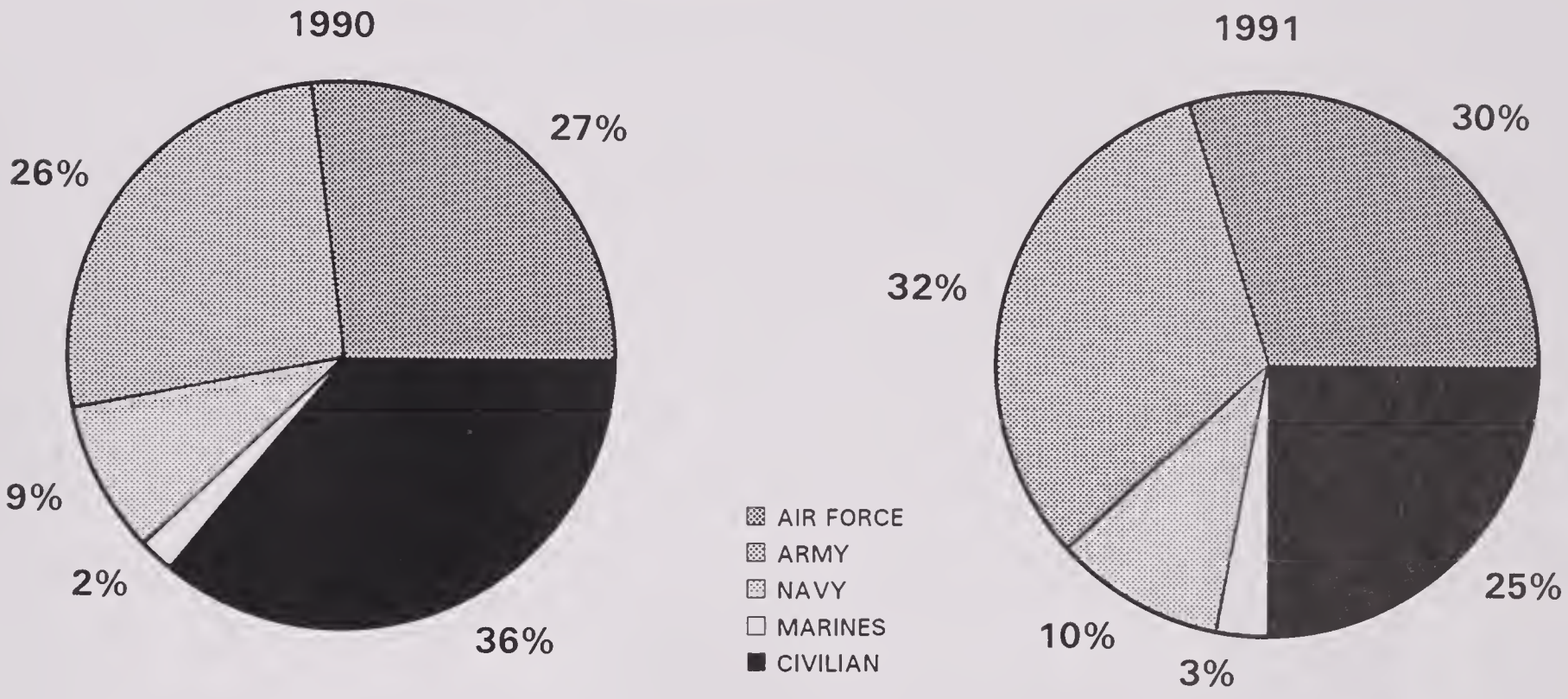
CHIEF OF SAN FRANCISCO FIELD OFFICE

Colonel Thomas E. Smalls, USA	March 1988-November 1988
Lt. Colonel Stephen E. Boyd, USAF	November 1988-

CHIEF OF FIELD OFFICE EUROPE

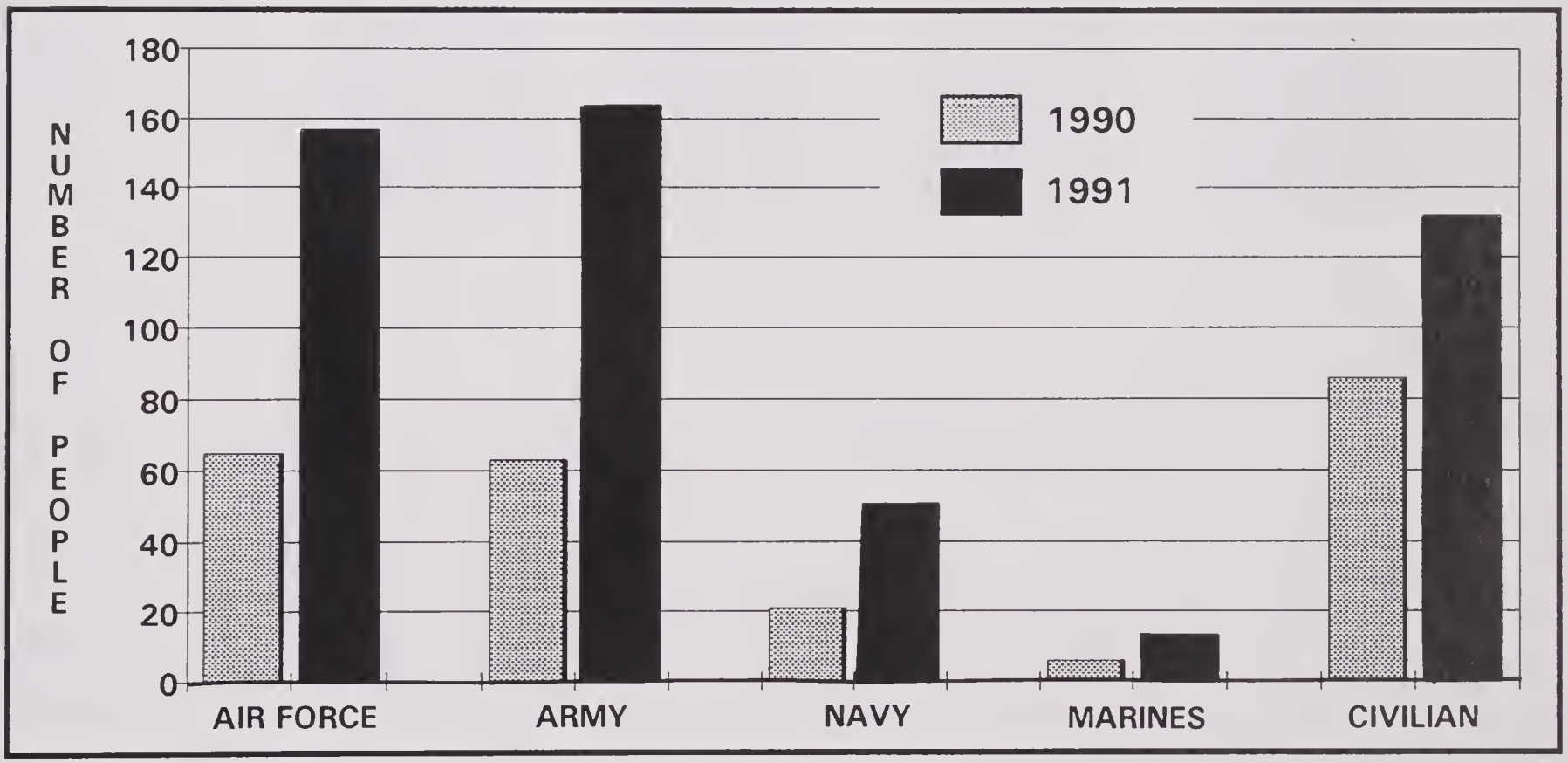
Colonel John Fer, USAF	April 1988-June 1990
Colonel Frederick E. Grosick, USAF	June 1990-

APPENDIX D
ON-SITE INSPECTION AGENCY
ASSIGNED PERSONNEL

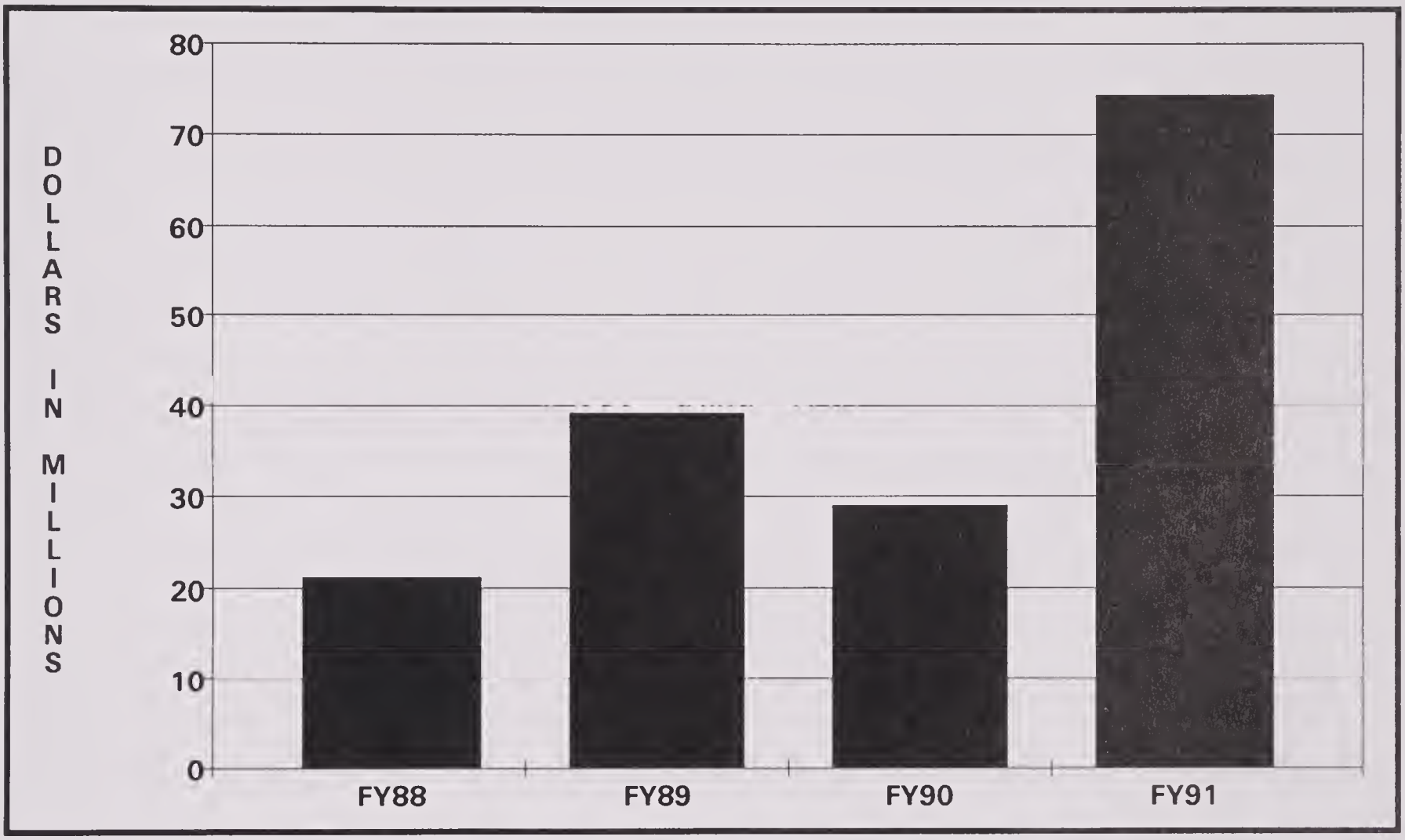


TOTAL ASSIGNED 1990: 241

TOTAL ASSIGNED 1991: 517



APPENDIX E
OSIA BUDGET FY* 1988 - 1991



- IN FY 88, INF TREATY ENTERED INTO FORCE IN MID-YEAR
- IN FY 89, INF TREATY IN EFFECT FOR FULL YEAR
- IN FY 91, OSIA ASSIGNED MISSION OF PREPARATION FOR START, CFE, CW, AND TTBT TREATIES

* FY: Fiscal Year (1 October - 30 September)

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